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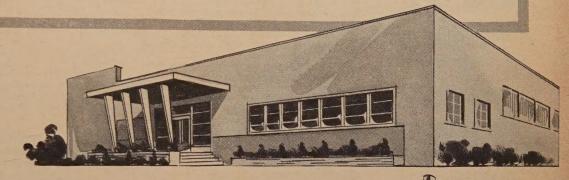
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statistics of . . .

Chicago Business

	January 1955	December 1954	
Building permits	650	712	482
Cost\$	16,550,500	\$ 19,523,300	\$ 18,738,500
Contracts awarded on building proj-			
ects, Cook Co.	2,078	2,502	1,367
Cost \$	54,673,000	\$ 61,618,000	\$ 43,395,000
(F. W. Dodge Corp.)			
Real estate transfers	6,927	7,560	5,224
Consideration \$	6,517,359		\$ 5,562,870
Bank clearings \$	4,287,584,690	\$ 4,643,767,313	\$ 3,878,551,712
Bank loans (outstanding) \$	2,815,000,000	\$ 2,904,000,000	\$ 2,769,000,000
Midwest Stock Exchange transactions:			
Number of shares traded	2,454,000	2,401,313	1,358,000
Market value of shares traded\$	93,305,028	\$ 72,275,613	\$ 46,059,087
Railway express shipments, Chicago			
area	810,075	1,320,161	850,339
Air express shipments, Chicago area	67,571	78,482	60,721
L.C.L. merchandise cars	16,914	18,889	15,900
Electric power production, kwh			1,524,667,000
Industrial gas sales, therms	14,111,439	14,334,550	14,318,995
Steel production (net tons)	1,654,200	1,647,800	1,543,000
Revenue passengers carried by Chicago			
Transit Authority lines:			
Surface division	42,873,332	45,317,843	45,180,287
Rapid transit division	9,485,554	10,346,650	11,761,904
Postal receipts \$	11,330,077	\$ 16,514,669	\$ 10,951,412
Air Passengers:			
Arrivals	305,854	301,231	254,895
Departures	326,535	323,416	
Consumers' Price Index (1947-49=100)	117.0	117.0	116.7
Unemployment compensation claim-			
ants, Cook & DuPage counties	63,310	55,455	57,148
Families on relief rolls:		1	
Cook County	27,945	26,514	18,270
Other Illinois counties	18,722	17,113	15,346
		200	

April, 1955, Tax Calendar_

Date Due

Tax

- 15 Illinois Retailers' Occupation Tax return and payment for month of March
- 15 Declaration of 1955 estimated tax by individuals (Form 1040ES) and payment of at least one quarter of tax in excess of estimated withholding. File partnership information returns (Form 1065), no payment required
- 15 Final 1954 income tax return (individuals) and settlement of 1954 income taxes (Forms 1040 or 1040A) and partnership returns (Form 1065). Pay amounts due on Form 1040 to
- 15 File fiduciary returns, estates and trusts (Form 1041). Trusts must pay tax in full. Estates may pay quarterly.
- 15 If total O.A.B. taxes (employer and employe) plus income tax withheld in previous month exceeds \$100, pay amount to or remittance may be made at end of month with quarterly return directly to
- 30 Illinois Unemployment Compensation contribution and wage report, and payment for first quarter of 1955 (UC-3 and UC-40). On first \$3,000 wages paid to each worker
- 30 Quarterly return and payment (by depositary receipts or cash) of income and O.A.B. taxes withheld by employers for first quarter of 1955 (Form 941). On first \$4,200 wages. Domestic help (Form 942)
- 30 Second quarterly installment on 1954 Federal Unemployment Compensation Tax
- 30 Federal Excise Tax return and payment due for first quarter 1955

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COMMERCE

Magazine

Published since 1904... by the Chicago Association of Commerce and Industry · I North La Salle St., Chicago 2, Ill. · Franklin 2-7700

March, 1955

Volume 52

Number 2

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What happened in Chicago's business world last year? For the fifteenth year in a row, the staff of COMMERCE MAGAZINE has compiled the many facts and figures that make up the answer to that query. For this is our annual business review edition.

The special report on the Chicago area's 1954 business activity starts on page 44. As usual it is the most comprehensive annual coverage of Chicago's vast industrial and business operations. Each year the section grows in size because each year the scope of the report is broadened. Additional breakdowns and groupings are made.

Local statistics, presented both in tabular and chart form, abound throughout the section. They reflect the information contained in the many special reports made especially for this review and add up to a most complete answer to "what happened in Chicago's business world last year?"

The regular section of the magazine leads off on page 23 with an article by Ray Vickers on the guaranteed annual wage, which will be the big issue in the up-coming negotiations in the auto industry. Jack Robins reports (p. 25) on the government planning for future trade relations with the far east. Next comes an article (p. 27) by Joseph K. Wexman telling what the small manufacturer can do to maintain his volume. Larry Wolters (p. 28) tells the story of the transistor and its invasion of the electronic field. On page 30, Milton Golin goes into the subject of air pollution and some profitable solutions that have been developed by companies who tackled the problem. A movement called "tree farming" is reclaiming wastelands across the country and paying dividends to those participating, Cyrus Lloyd's article discusses this on page 32. Pieces by Lt. General Leslie R. Groves, Phil Hirsch, Dr. Ed-

ward Weiss, and Dr. Arthur F. Burns conclude Commerce's regu-

lar monthly fare.

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The Editor's Page

Sooner Than We Think

Most of us are inclined to think of a completely airconditioned home as something far down the road for the average man. According to Donald C. Minard, president of the Trane Company, we may be in for a pleasant surprise. Minard recently reported to the New York Society of Security Analysts that his company is making "excellent progress toward a central home conditioner, much more compact than those now on the market, to sell at a lower price — so that complete airconditioning will be within the reach of a man earning \$3,500 a year.

"This year-round airconditioner of the early future – perhaps two or three years hence – will be no larger than your present refrigerator and

perhaps smaller."

The distribution system for this unit may be radically different from today's. It may, said Minard, consist of plastic ducts only three or four inches in diameter through which air will race at 30 miles an hour to be diffused silently through a new type grille.

The price tag on such a conditioner, Trane's president said, may only be \$350 or so more than a

good central heating plant.

In the light of today's technology, this happy forecast may seem almost incredulous. But viewed in the light of American industry's fabulous performance in passing miracles, the forehanded householder will start saving up at least the down payment — \$350.

Reverse Twist

It is a popular pastime among the "older generation" these days to discuss the problems and short-comings of the younger generation. Perhaps that has always been the prevalent custom and perhaps there are more shortcomings and problems these days than when today's parents were growing up.

Evidently, however, there is an opposite side to the coin. The youngsters find some shortcomings in the community building job their parents are

doing.

At least that is what the Independence, Iowa, Chamber of Commerce discovered when it conducted a survey among students in the town's two high schools. The chamber asked 160 juniors and seniors for frank answers to 24 questions about the community. The students were asked their opinions on how to improve recreational and social facilities, what they thought of retail stores and whether they intended to remain in their home

Among other things the students made it clear that they felt a need for better recreational and social facilities. They also asked for more selection and variety in stores, store modernization and fewer "pouncing" clerks. About 50 per cent asked for a store specializing in teen-age clothes, pointing possibly to an unexploited business opportunity.

In response to questions on post graduation plans, 73 said they expected to leave Independence, 13 expected to stay and 11 were undecided. The chief reason for plans to leave was lack of job opportunities.

Independence is taking the teen-agers' views to heart. It has launched an improvement program through its chamber of commerce.

The same unique approach of asking the young folks' ideas might, if more widely employed, provide the answers to many of the questions troubling the older generation about the upcoming generation.

Needed: \$60 Billion A Year

Ralph J. Cordiner, president of General Electric Company, has observed that there are two reasons why it is important to increase the number of people who own shares in American industry: "First is the tremendous demand for new capital investment to fulfill the needs of a growing economy. And second is the improved understanding of our business and economic system which results from participation as share owners."

So far as the first reason is concerned, the statistical evidence is overwhelming. It is expected that the capital expendidures for new industrial plants and other physical equipment will increase to \$60 billion a year in ten years. That money will be needed to create more jobs and make possible the production of more goods and services. As much as possible should be raised by broadening the base of share ownership.

In the long view, the second reason is the most important. People with a direct personal stake in our way of doing things will go to some pains to learn just what capitalism means. They won't be easy mental prey for purveyors of half-truths and untruths. Resistance to the false blandishments of the socialist-minded groups, with their government-do-everything philosophy, will be enormously increased.

facilities, what they thought of retail stores and whether they intended to remain in their home U OF I Man Sturdy town after finishing their schooling.

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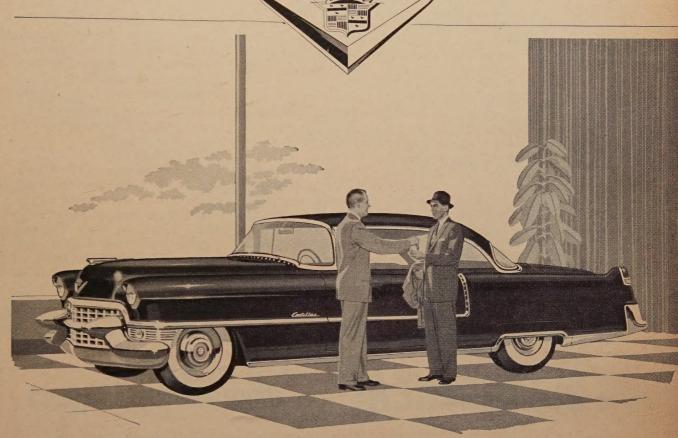


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- 1. Interstate traffic may be transported between any two of the following points: Cincinnati, Columbus, Kings Mill, Springfield, and Xenia, Ohio, Greensburg, Indianapolis, Milroy and Richmond, Indiana; Effingham, Illinois; all points between Indianapolis and Effingham, and all points between Cincinnati and Indianapolis.

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Only 35-But He Has Earned It!

Used to be you didn't see a young man at the wheel of a Cadillac very often.

Most of the happy people driving Cadillacs showed at least a little gray at the temples.

But things are changing. In fact, it isn't at all unusual any more for a man in his thirties to move up to the "car of cars."

There are two basic reasons for this.

In the first place, success is coming earlier now to a far greater group of young men than in years gone by.

And, secondly, the news of Cadillac's remarkable economy is spreading far and wide.

Actually, once a man feels justified in making the initial investment, he is economically on sound ground when he selects a Cadillac.

First of all, he can keep it and drive it with pride for almost any period of years he may elect.

Upkeep is remarkably low—and few cars of any size will run farther on a gallon of gasoline.

And when it comes to *purchase* price—well, there are twelve different models of other American makes which actually cost *more* than the lowest-priced Cadillac.

Thus, it is small wonder that more and more people in a younger age bracket are making the move to Cadillac. It has become a logical and practical thing for them to do.

So, if you are ready for a Cadillac—remember that achievement—and not age—is the criterion.

Here...There...and Everywhere

• Tax-free Securities - Individuals owned 44 per cent of the \$32 billion total of tax-free securities in 1953 according to the National Bureau of Economic Research, Inc. This is a marked change in the pattern of individual investment from the early 1930's, when individual holdings of tax-free securities reached two-thirds of the total. Commercial banks are the principal competitor for this type of investment, holding 40 per cent of all tax-free securities in 1953 as compared to only 15 per cent in 1932.

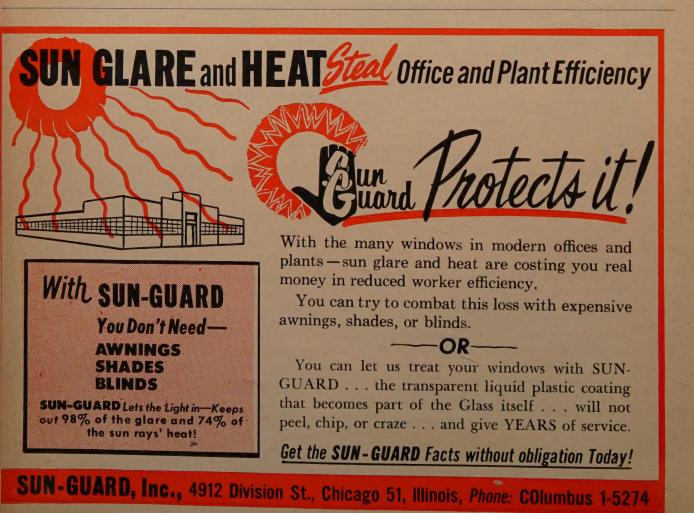
Individual holdings of tax-exempt securities are highly concentrated among the highest income groups. For example, the upper one per cent income group is estimated to own two-thirds of all individually held municipal securities.

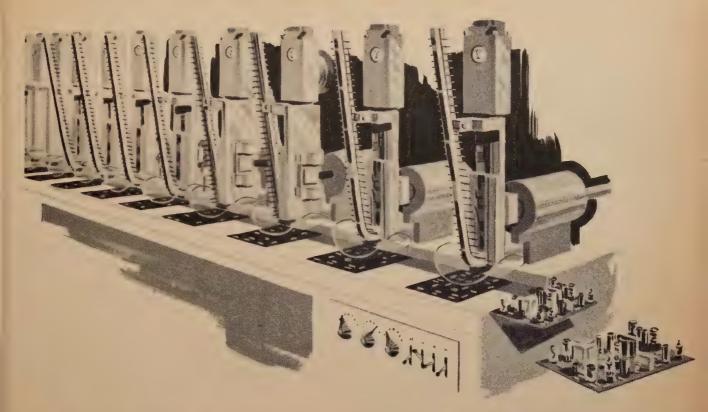
• Arctic Fire Fighter — A fire extinguisher that functions effectively at temperatures of 65 degrees below zero, Fahrenheit, has been developed by Ansul Chemical Company of Marinette, Wisconsin. Originally designed to meet U. S. Air Force specifications for the Arctic and other cold weather areas, the extinguishers have a special rubber hose that is able to withstand the extreme cold without stiffening or cracking. Nitro-

gen, rather than carbon dioxide, is used to expel the extinguishing agent which is a dry chemical. Painted blue to distinguish them from the regular red extinguishers used in temperate and tropical climates, the low temperature extinguishers are priced about the same as the red ones.

• **Doctors Supply** — The United States now stands fourth among the nations in the ratio of doctors to the population. Austria, traditional source of the "Viennese surgeon" and other medical specialists, still leads in saturation of medical care with 17 doctors to

(Continued on page 260)





AUTOMATION by Admiral

Paces Industrial Progress

Today's most talked-of industrial advance is Automation—the technique of manufacturing by automatic machines. This method of production results in an absolute minimum of errors...provides a sensational new high in uniform quality and dependability. And, best of all, it lowers prices for the American consumer.

In adapting Automation to the manufacture of television receivers, Admiral leads the way. Admiral TV for '55 features the world's first television chassis in which a major portion of the circuitry is made *automatically*.

Though it eliminates many hand operations, Admiral Automation actually increases employment because it greatly speeds production. More people are needed to complete the job of final assembly.

This spectacular manufacturing achievement is another example of how Admiral engineering and facilities combine to bring America better products at lower cost. It is a development of which we at Admiral are especially proud. For it demonstrates again that, as a center of industrial progress, Chicago remains unequalled in the world.

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Trends in Finance and Business

• White-collar Prospects Bright

— Employment prospects for white collar workers range from good to excellent in 1955. By the middle of this month or April, demand for skilled and semi-skilled labor will be in a vigorous upsurge from its present January-February seasonal dip. Salaries in 1955 will be equal to or a little higher than last year.

These are the prevailing views of 145 private and public employment agencies in 50 cities answering a Northwestern National Life Insurance Company survey.

Most wanted are office women. Demand remains heavy for secretaries, typists, clerks, and office machine operators. For white-collar and professional men there is still a general shortage of engineers, draftsmen and other technical personnel and a widespread demand for accountants and salesmen.

Electronics, aircraft, guided missiles, chemicals and scientific research are the most active fields of new employment. Construction is an active job market in southern, southwestern and Pacific Coast areas.

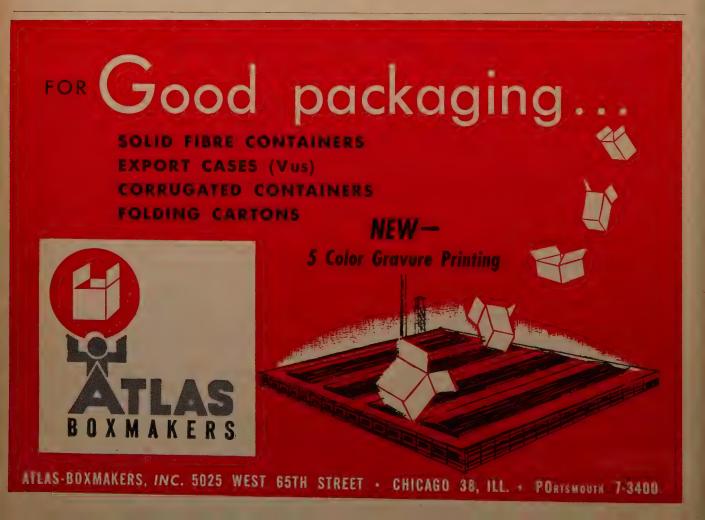
Older men remain very difficult to place unless specially qualified. Older women are less of a problem because of the shortage of stenographers and typists.

• Home Mortgage Activity Increasing – Nearly two million new homes have been financed by the

nation's 6,000 savings and loan associations since the end of World War II, according to Norman Strunk, executive vice president of the United States Savings and Loan League.

There has been a substantial increase in the number of new homes financed by savings associations every year since the end of World War II. Such institutions are financing nearly seven times more new homes today than in 1945. Savings and loan associations financed an estimated 51,000 new homes in 1945. In 1954 they financed 335,000. This year they are expected to finance almost 400,000.

In 1945 savings and loan institu-(Continued on page 255)



MR. EMPLOYER: DO YOU HAVE PLANS FOR EXPANSION?

THERE ARE

20,000

AVAILABLE WORKERS IN SOUTHERN ILLINOIS

A recent survey of 30 Illinois counties revealed—

That of the 20,697 unemployed workers
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WHAT DOES THIS MEAN TO YOU, MR. EMPLOYER? . . . If you are considering plant decentralization, it means that there is an adequate existing supply of experienced workers in Southern Illinois. . . . Or if you are having difficulty in obtaining suitable workers, many of these persons are willing to relocate.

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EMPLOYMENT SERVICE

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Labor Battle Looms In Auto Industry

By RAY VICKER

Auto union proposal for guaranteed yearly income

will start clash; serious strike may be outcome

AMAJOR clash is shaping up between labor and management over the guaranteed annual wage—the assured income plan under which management would underwrite weekly paychecks whether or not employes worked.

In Detroit, today, this subject is one of the main discussion topics at the swank, six-story Detroit Athletic Club where auto executives like to relax over a card table or a bowling alley. Across town in modernistic Solidarity House, head-quarters of the United Automobile Workers Union, C.I.O., keen interest also is focused on this plan.

At the end of this month, representatives of auto companies will sit down with U.A.W. officials to determine the fate of that annual wage plan. Discussions may be heated, and a serious strike is a possibility.

While the U.A.W. now is carrying the ball in the drive for the annual wage, this isn't strictly an auto industry fight by any means. C.I.O. unions in the rubber, appliances, electrical, steel and other industries are poised to follow U.A.W.'s lead, if not this year then

the next. U.A.W., itself, is ready to move on farm equipment companies should it convert auto firms to its creed.

Any assured annual income plans adopted could have far reaching side effects. Supplier plants may find themselves bearing the worst of any industry downturns. Technical advances may be stymied. Higher labor costs could result.

Economic Rationalization

Unions insist, of course, that wage stability is worth the price... that continuity of income means uninterrupted consumer purchasing power.

Both labor and management admit the issue is injecting something new into industrial relations.

Since man has first gone to work for fellow man, the theory of "No Work — No Pay!" generally has prevailed. Unemployment compensation has tempered this theory. But, even such compensation recognizes management's right to lay off employes when work is slack.

The guaranteed annual wage would usher a new factor into the picture—the idea that employers should be held financially responsible for providing regular work to employes.

U.A.W. says: "The primary goal of a guaranteed annual wage plan should be to stimulate management to provide steady full-time employment, week by week, the year around." Candidly, it adds: "The lay-off is not the worker's fault, in the first instance. Neither he nor his family should be penalized in any way for his employer's failure to provide him with work."

Unions are seeking assurances that workers would get 52 weeks' pay a year regardless of plant shutdowns, work curtailments, retooling, or anything else. Even "Acts of God" such as the disastrous fire at the Livonia, Michigan plant of General Motors would be no excuse for a layoff without pay.

A pamphlet now being circulated to all U.A.W. members includes this engrossing paragraph: "Management will claim, of course, that it has no control over so-called 'Acts of God.' There is no reason, however, why the workers should bear the costs and suffer the losses resulting from interruptions to production beyond management's control. Since management claims to be entitled to profits on the basis of the risks it takes in doing business, it should assume the risks and not try to transfer them to the workers. The cost of 'Acts of God' and sim-

The UAW's guaranteed wage plan would be tied to length of employment Ford Motor photo



Harry W. Anderson, personnel vice president of General Motors

ilar occurrences should be treated as one of the regular costs of doing business."

Such paragraphs promise to develop plenty of sparks when introduced at bargaining sessions. That they will be fought for is evident.

Red-headed, blunt-talking Walter Reuther, U.A.W. president, says: "We're going to get the guaranteed annual wage. There's no question about it. We only hope the issues can be resolved on the bargaining table basis."

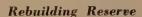
U.A.W. unveiled its plan before 2,500 delegates in Chicago's Civic Opera House in early April, 1954. Since that time Union economists and negotiators have worked long hours on details. Meanwhile, the United Electrical Workers Union,

C.I.O., a sister union of U.A.W., has unveiled its plan.

Basically, the industrial world envisioned by these unions would

envisioned by these unions would be one where all workers beyond the probationary classification would be guaranteed a total of 2,080 hours pay annually, or up to 52 consecutive pay checks if laid off without recall. U.E.'s plan has the hours-per-year feature. It spells out coverage to include "all employes with a year's seniority."

U.A.W. favors the weekly plan rather than the hours-per-year guarantee, with the guarantee not confined to any one year but to 52 consecutive weeks following the layoff. Workers would accumulate one week of guarantee for each two weeks worked after acquiring seniority. For example, a worker who worked 20 weeks after acquiring seniority would be entitled to ten weeks' pay if laid off. The worker who had worked only ten weeks would be entitled to five weeks' pay. Terms like "probationary classification" and "seniority" remain to be spelled out over the bargaining table.



Under the plan, if a man uses up some of his weeks by drawing guaranteed wage checks when laid off, he could pick up his reserve when recalled. Thus, suppose a man has 52 weeks of assured income due him. He is laid off for four weeks. During that time, he would collect four paychecks. When recalled, he would have 48 weeks in his reserve. By working two months, he could build the reserve back to 52 weeks.

Both the U. E. and the U.A.W. plans specify that a worker must register with his state unemployment service when laid off, and must accept "suitable employment" if offered.

"Suitable" might mean one thing to an employer and another to an employe. So U. A. W. specifies: "Standards of 'suitability' will be specified by the agreement, without regard to any standards that may be provided in the state unemployment compensation laws, in order to protect workers against pressure to accept jobs paying sub-

(Continued on page 193)



Ken Bannon, director of UAW's Ford department and Walter Reuther in a pre-negotiation conference last January



John S. Bugas, seated in center, industrial relations head of Ford and Ford negotiators M. B. Lindquist, M. M. Cummins, M. L. Denise

No Marshall Plan For Asia

Policy makers believe problems in Far East call for different approach

Bg

JACK ROBINS

N THE Far East, where traditionally the years are named in a duodecimal cycle according to the names of animals, this is the "Year of the Sheep." Were the Eisenhower Administration to follow the practice of giving each year a name, 1955 probably would be designated the "Year of Economics." For Washington has decided that in the cold war the biggest element lacking toward a rounded, aggressive foreign policy capable of competing with Communism is a sensible, comprehensive foreign economic policy.

The emphasis on free world economics this year stems from a feeling that during the last two years military and diplomatic policies have been put into reasonably good shape.

Military Power Up

Militarily, Western Europe is reaching a state of genuine self defense against Communist military strength for the first time since the war. North Atlantic Treaty forces, armed with atomic tactical weapons, have been put on a "long haul" basis designed to provide adequate defensive strength without bankrupting the economies of the nations taking part.

In the Far East, after completing a series of mutual defense treaties with most of the free countries of the area and promoting the organization of a cooperative defense effort known as the Manila Pact, the United States has finally drawn a line against further expansion by Red China and served notice that it will fight to keep the line intact.



Primitive irrigation device still used in Pakistan



Indian farmer tills his two dry acres with oxen

U.P. photos

Diplomatically, the free world alliance was strengthened in Europe by the writing of a treaty for Western European Union, and in Asia by completing the creation of an island chain of defense outposts through a treaty with Nationalist

China. One of the reasons for the recent shift of top management in the Kremlin from Malenkov to Krushchev, and from a soft "peaceful coexistence" line to the old tough Stalin policy, is thought by U. S. experts to be based on a

Soviet feeling that their diplomatic tactics of the last two years, despite some successes, have not on the whole worked too well.

But in terms of world economic leadership, the judgment of the Republican Administration as it looks backs over two years of accomplishment is that something more than the global handout policies of the past is needed for the long haul. The billions poured into Europe have by no means been wasted. Europe is back on its feet. The area of economic, as well as military, competition with Communism has shifted to Asia. Japan's since - defeated Premier Yoshida, during an official visit to Washington last fall, called for a "Marshall Plan for Asia," but American policy makers believe that Asia's problem is different from Europe's, and calls for a different approach.

Problems Differ

The problem in Europe after the war was to get a highly industrial, worker-skilled economy back into production so that it could support itself and strengthen the fabric of the free world. The problem in Asia is to raise the living standard of some 700 million people outside the Communist - held areas, to whom the glittering Communist promises carry a strong appeal against the background of their present miserable existence.

The Asian problem is real, not theoretical and altruistic, because Communism is al-

ready at work on it. The Chinese Reds have undertaken a major program of capital improvements and industrial expansion. The Peking regime is out to build roads, railroads. and housing, and to create other tangible benefits which not only will give the Chinese a better life but will provide the rest of Asia with a demonstration of what Communism can accomplish.

Under Communism the achievement is cruelly done; for example, the Peking regime at times has exported food in periods of famine in order to pay for industrial imports from Russia and elsewhere, thus condemning literally hundreds of thousands of its own people to death by starvation. But with the usual Communist means of concealing the cruelty and propagandizing the end result, the program can be used to influence underprivileged populations unless the free enterprise economy shows a better record.

New Approach Needed

This calls for a new step in the evolution of our foreign aid programs. They started as economic help—the meeting of dollar shortages—for Europe. After the Korean fighting broke out, the emphasis shifted to military hardware. Then, as Europe's needs began to be met, the major flow of funds shifted to Asia.

Last year Congress decreed that the foreign Operations Administration, agency for handling these funds, should close up shop at the end of June, 1955. But subsequent review of foreign economic needs convinced President Eisenhower that aid directed primarily at Asia and designed primarily to raise its living standards needed to be continued. He summoned Detroit banker Joseph Dodge back to Washington to whip a program

into shape, and named Dodge chairman of a cabinet level Committee on Foreign Economic Policy, which ranks in its field with the National Security Council.

What shape will the new program take? Since a sound development program is built up from the bottom through the accumulation of projects needed by individual countries, it is possible there will be no comprehensive announcement explaining what it is, and that it can be pieced together only by those who examine the breakdown eventually given to Congress in support of the one-line item for \$3.5 billion which Ike wrote into his 1956 budget.

There is, however, a document outlining the objectives and principles of the new foreign aid program. It indicates that aid will continue to range all the way from straight fighting "hardware" to Point IV.

Economic Development

But the administration intention is to stress economic development as much as possible, and one of the significant tokens of this intention was the fact that in creating the FEPC the President omitted the Department of Defense as a permanent member, thus leaving policy guidance in the hands of civilian agencies. The forms of aid will be:

Direct military assistance, in the form of war weapons, for such places as Formosa and the free sec-

> tions of Indochina.

"Direct forces support," which might mean the building of barracks for the Viet Nam army.

"Defense support," meaning economic aid to a country which gets military assistance (say a power plant for Pakistan), in order to sustain expanded military forces which otherwise it could not afford.

Similar developmental assistance (Cont'd on page 241)



The problem in Asia is to raise the living standard

Cures For Production Cuts

Here are three specific things the small manufacturer can do to maintain volume

By JOSEPH K. WEXMAN

AINTAINING a high volume of business is a continuing problem for the small manufacturer.

When this volume starts to fall, he has three ways of trying to build it up again. He can redesign his present product. He can look for new markets. He can make new products.

Which should he do and how is it done?

Introduction of a new product is probably the fastest cure-all for declining volume; and of all the remedies, it is the easiest to prescribe and the hardest to compound.

For obvious reasons, the first thing any business owner should think about is finding new markets for his present products.

Greeting Card Industry

An excellent example of success in this direction is the greeting card industry. The greeting card formerly was strictly for use at Christmas time. And then someone began to promote greeting cards as a method of communication that could be used by people who have difficulty writing notes. That started the progress. Greeting cards are now a proper method of communication all year long. A host of new applications have sprung out of that fundamental idea.

The soap companies developed detergents first for special uses and

The author is director of the Management Seminar for Smaller Business at the University of Chicago.

then found they could profitably be marketed to housewives. Now the soap makers are producing both soaps and detergents for different special applications, for example, glassware, china, and silver.

Next a business owner might think in terms of redesign of his present product. Westinghouse Electric Corporation had a generator that weighed 200,000 pounds. By redesign it cut the weight to 125,000 pounds, which not only cut cost, presumably broadening the market, but with the lighter foundations required, cut the cost of installation for its customers, thereby increasing sales.

Redesign of present products may take different paths: the use of new materials, changes of shape, fewer gadgets and frills, more lavish use of color, or redesign for production economy which can broaden the market via price reduction

In 1955, changes for the sake of changes will be made. The old refrigerator will have a new handle; the old clock, a new face. Most manufacturers at some time practice this method of inducing the buyer to regard his present model as obsolete. But in 1955, you'll find more modifications going into major redesign.

For example, the electric blanket borrows the contour idea, fits over a mattress the way a contour sheet does. General Electric Company plans to replace its standard line of electric blankets this year entirely with contours.

There are other avenues to re-

designing products if the business owner makes a systematic approach to the problem.

There are the suggestions for improvement one can get from within the plant, or from salesmen, or from customer or dealer complaints. These are especially prolific sources if management is alert.

A manufacturer of many kinds of measurement instruments, thermometers, pressure gauges, is making a plant-wide study of all metal parts that go into his products. Some of his foremen had been complaining for a long while. The aim: to find which parts can be produced with materials that are easier to machine, to produce a better item less expensively.

Easier To Machine

Leaded steel, for example, is replacing carbon steel in some equipment. The manufacturer has switched to it because it machines faster. One hundred forty parts can be turned out in an hour—where carbon steel parts could be produced no faster than 90 units per hour. Leaded steel costs more but the manufacturer finds that he saves ten per cent in the over-all cost of the part and increases his sales with lower prices,

The same manufacturer had used steel screws with a plated finish on one of its commercial products. His foremen found them hard to work with and now, the manufacturer is using plastic instead, at a saving of more than 66 per cent.

The hardest problem for any (Continued on page 167)



Transistors used in Raytheon radio weigh one ounce

A TINY metal device, no bigber than the rubber on a lead pencil, is causing a revolution in the realm of radio and electronics.

This development is the transistor which can do the work of most vacuum tubes. The three element (audion) tube, developed by Dr. Lee DeForest a half century ago in Chicago, brought on the era of electronics which currently is a \$5 billion-a-year industry. The transistor, whose heart is a germanium crystal, may expand the industrial horizon as greatly as the vacuum tube did.

The first tubeless radio receivers were manufactured in Chicago recently by the Raytheon Manufacturing Company. These sets, employing eight transistors instead of tubes, will outperform and outlast every conventional radio in America, according to Henry F. Argento, vice president and general man-

The author is radio and television editor, Chicago Tribune.

By LARRY WOLTERS

ager of the company's radio-television division. He added that this transistorized set will completely change the consumer's concept of radio use and vastly broaden the set market.

Difficult to Damage

Argento expects the transistor radio to make obsolete all plug-in types of sets since it will operate, under average use, for a year on four conventional one-cell flashlight batteries. Transistors cannot burn out, do not disintegrate and they are difficult to damage or break. The T-Radio begins giving out sound the instant it is turned on since there are no tubes to warm up. The Raytheon T-radio will operate at a cost of 60 cents or so a year as against \$15 to \$30 upkeep

for conventional sets with plug-in cord and batteries.

The T-radio will be a godsend to the three million homes in America that have no electricity. There is a safety factor in them, too. Since they use only minute amounts of electrical current, no one can receive a shock from them. Thus, they can be used without danger in the bathroom. The Raytheon T-radios weigh around five pounds. Their overall dimensions are approximately 9 inches by 7 inches by 3 inches.

A smaller T-radio is also on the market. It is made by the Regency Division of Industrial Development Engineers Associates, Indianapolis, Indiana. Because of its "pocket size," it is considered by many to be in the toy class. It is roughly 3 inches by 5 inches by 1 inch and

INVADES GIANT ELECTRONIC FIELD

will cut cost and size of most electronic equipment

weighs 12 ounces. Since Regency's four transistor radio hit the market last fall, over 50,000 have been sold, according to Jack West, the firm's Chicago representative. It differs from the Raytheon set by operating off the 22½ volt "B" battery rather than the flashlight battery. While Raytheon was the first to make the T-Radio, its sets are just hitting the retail market.

The application of the transistor to radio is only one aspect of its almost limitless uses. The hearing aid industry already is being transformed by the transistor. Because they are small and sturdy, they are particularly valuable in hearing aids where compactness is so important. Already more than 350,000 of the nation's 1,250,000 hearing aid wearers have acquired transistorized aids. Mr. Argento estimated that last year this saved them some \$10,000,000 by cutting the annual costs of batteries and tubes from \$40 up to \$80 per unit to under \$5 per unit. He expects that within several year the annual saving will run upwards of \$50,000,000 a year. Zenith Radio Corporation's entire hearing aid output is transistorized.

Many Military Uses

The transistor opens up new horizons in the field of military and aviation electronics, although specific applications are largely classified. Mervin J. Kelly, president of the Bell Telephone Laboratories, where the transistor was invented and developed, has given an example of a military application:

"In World War II," he said, "radar played a very important part. Today, aircraft bombsights are built around radar. Detection of targets, range and bearing all come from radar. This information feeds into a 'computer' which quickly determines the proper release point, taking into account other information as well: aircraft and wind velocity, altitude and the flight characteristics of the missile. The radar and computer make a highly intricate electronic system, using hundreds of vacuum tubes and considerable power, and occupying much valuable space. Perhaps 80 per cent of the vacuum tube functions may be performed equally well by transistors, with savings in space, weight, and power alone of major significance to our air forces."

Ten Year Life

In many other areas of our complex military technology, guided missiles, sonar, loran, there are uses for transistors because of their reliability, smallness and low power consumption. Unlike the vacuum tube the transistor is not a self-consuming and self-destroying device. Because of their fragility most tubes have a life of only a few thousand hours. The transistor is expected to have a life of ten years or more. Some developed eight years ago are still functioning properly.

The transistor's impact will be felt not only in replacement of vacuum tubes, Mr. Kelly said: "It will make completely new fields for itself as it begins to do work where vacuum tubes so far have been excluded. We shall see transistors at work routing and connecting telephone calls through exchanges, doing accounting and computing and performing in other so-called 'electronic brains.'

"In our automatic telephone exchanges today there are substantially no operators," he said. "But even with mechanization, electron-

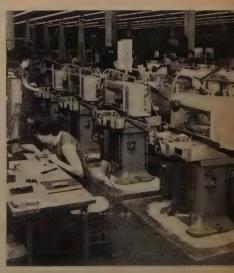
(Continued on page 211)



John Bardeen and Walter Brattain, and William Shockley (seated), of Bell Labs



No B battery for this hearing aid which is cigaret lighter size



Battery of machines at Western Electric which cut single crystals of germanium into very small units

Solutions to Air Pollution

Sales of recaptured fly ash gross

HE meat processing industry is justly proud of "getting everything from the pig but the squeal." Now other businesses are profiting from what only recently had been waste in the air. These industries are making a stronger concrete with fly ash, turning sawdust into basic fuel, and salvaging valuable metal from furnace fumes and grinding machines.

Yet even these tangible savings are but a speck in the sky compared to a much more significant return: cleaner air for the entire nation.

Air pollution experts seem to agree that industry is largely re-

sponsible for America's air contamination.

"Industries all recognize the necessity for diminishing air pollution," says Dr. John Rettaliata, president of the Illinois Institute of Technology. "They are trying to police themselves because they realize the consequences if they don't. The public no longer regards air pollution as a necessary by-product of industry. Pressure is being applied to pass and enforce legislation calling for air pollution control."

It didn't take legislation — or the threat of it — to stop doors from slamming in the Grand Rap-

> ids Store Equipment Company plant. A sawdust blower system there was expelling more air

Left, Commonwealth Edison bags about 1,800 bags, or 90 tons of fly ash at this State Line Station from the building than could be sucked in from outside. As a result, doorknobs were often yanked out of hand by the unequal air pressure. Heating costs were high during the winter because of the need to warm the constant stream of cold air entering the building.

Experts Called In

To solve its problem, the company called in dust control experts. They connected five bag-type filters to the plant boiler system. The filters strained fine sawdust out of the air. It was then used, with wood scraps, as fuel. The result: a 33 per cent saving in heating costs, \$6,000 a year. Another benefit has been happier workers and less hostile residents near the factory.

Each year the Kellogg Company in Battle Creek, Michigan, uses ten million bushels of corn and wheat and 140 million pounds of bran, rice and sugar in its cereal and dog food operations. This al ways has presented a major air





Dry type cupola dust collector using large diameter glass cloth tubes

Problems Profitable for Many Firms

one firm \$200,000 yearly, another reclaims \$1,400 of raw material daily

By MILTON GOLIN

pollution problem because ordinary exhaust fans would send out an explosive and inflammable discharge over the surrounding area. Company engineers have installed dust bag collectors to catch the dangerous waste. It is then carried by conveyor belt to large storage bins. This operation recaptures 35 tons of sugar and cereal every day! The saving: \$1,400 in twenty-four hours.

Dust and Heat

The dust problems of these two firms are closely related to their heating problems, and so solving a dust problem also may net substantial savings in plant heating

John M. Kane, chief engineer for the American Air Filter Company's dust control division, estimates that the exhaust of 1,000 cubic feet of air a minute (where the temperature is 30 degrees warmer inside than out) can burn up as much as four tons of coal during an average heating season. He advises that the exhaust volumes of many industrial buildings reach 50,000 to 200,000 cubic feet of air per minute!

Air pollution takes many forms. It can be the deadly, oppressive London fog tinged with poisonous chemical fumes; smog that brings smarting to the eyes and a higher automobile accident rate in Los

Angeles; or the industrial hydrogen sulphide gas that killed 22 people down in Mexico.

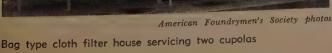
Right, a rotary centrifugal dry dust collector, used by many compa-

Anything that can be crushed, burned, ground up, boiled or condensed can pollute the air with dusts, fumes, mists, vapors and gases. Fly ash, feathery particles from burning wood, paper, and coal, is the most common airborne impurity. Others are sulphur compounds, tobacco smoke, auto and truck exhaust, metallic and coal dusts, and ammonia particles.

Normally, air currents disperse these impurities. But under cer-

(Continued on page 214)

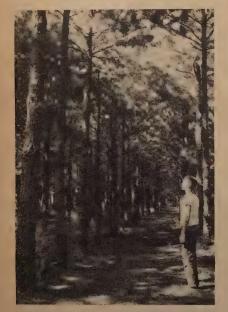








Sawlog from Tree Farms



Pines growing on reclaimed land

A WOOD-hungry America is developing the "worthless" wood lot into big business.

Last year it was the source of \$700,000,000 worth of raw materials for finished products such as toothpicks and turpentine, maple syrup and matches, pencils and paper, boxes and barns.

The crops being harvested on the back forty are trees which have bulked large in the raw materials supply of the nation throughout its history. Today trees are more important than ever.

The use of newsprint, one product made from trees, shows the growing need for timber. Since 1910 the per capita consumption



Bear Gulch, California, 1888, after Logging operation

Worthless Wood Lots Grow

of newsprint has increased from 25 pounds to 75 pounds. Consumption of all types of paper products in the same period has jumped from 90 pounds to 394 pounds per person. Not only has the consumption of individual items made from wood increased but the uses for wood in products has grown. At the turn of the century about 3,000 items were derived from trees. Today trees supply the raw material for over 6,000 products.

Not a New Crop

Trees, of course, are not a new crop and while there is enough sawtimber standing in the nation's forest today to build a six room house for every man, woman and child in the country, it is less than 20 per cent of the amount standing some 350 years ago. Furthermore the annual removal of the nation's wood supply is 1.53 times new growth according to the last available official figures.

It's the constant drain on the na-

tion's timber reserve that has brought the wood lot into prominence as the "Tree Farm."

The tree farm idea was started 14 years ago by the Weyerhaeuser Lumber Company of Washington State. It reclaimed a plot of 120,000 acres. Today there are 34 million acres in some 36 states that qualify as tree farms. Forestry officials expect another 10 million acres to be under cultivation by the end of 1955. Illinois, for example, one of the states without a tree farm program will start one this year as will three other states.

While the big timber operators like Weyerhaeuser figure in this movement, most tree farming is done by small operators, who have found it to be an easy source of added income.

What would be a typical tree farm operation? On a 40-acre farm in Oregon, a teenage 4-H member developed a ten acre plot of trees. He started in 1951. His expenses in developing the full plot by the end of 1954 amounted to \$1,544.02. His



Bear Gulch, 40 years later

American Forest Products Industries Photos



One year old pine and four year old boy

Same boy, same pine three years later

Into \$700 Million Business

By CYRUS LLOYD

gross income this year from his efforts will be about \$4,000. In Ohio, on the 50-acre woodlot of a 200-acre farm, production of maple syrup yields \$3.50 per tree a year. Since the area contains 700 maple trees, the additional revenue for the farmer amounts to \$2,450.

Nature Does Work

Such reports are duplicable in state after state where tree farming is practiced. This involves little more than assisting nature do what she'd do anyway, grow trees. The farmer's part comes in harvesting them in regular cycles. Such things as selective cutting, insect and fire control, and the like, of course, are

practiced for maximum yield, but these are things any farmer must do with more orthodox crops if he is to get the most from his land.

The land involved mostly in tree farming is the farm wood lot. Rarely is large acreage used. Eighty per cent of the tree farmers are small operators with an average holding of 62 acres. The smallest recognized as a tree farm is three acres. At last count by the American Forest Products Industries, Inc., sponsoring organization, there were 6,094 tree farmers.

But regardless of the size of the individual operation, the aggregate output of tree farming is not small business. To be precise, A.F.P.I. values it at \$700,000,000

annually, or about the same value as the nation's entire truck garden crop. This is reached in the form of sawlogs, pulpwood, mine timbers, Christmas trees, fence posts, railroad ties, and similar products.

What is a tree farm and what is its significance? In a sense, any farm is a tree farm, particularly since one-third of the United States is naturally forest country. In fact the original stands of this country were the most magnificent in the world with more than 1,000 different species of trees. Two hundred

(Continued on page 228)

Improve Our School System

Or Succumb to Atom Age

By LT. GEN. LESLIE R. GROVES

THE bombing of Hiroshima on 6 August 1945 forcefully and dramatically focused the attention of the people of these United States upon an accomplished and irrevocable fact—we are now living in an Atomic Age. By all previous standards, it is an age of extremes. It offers to us on the one hand, greater prosperity and better living; and on the other, more death, destruction, and suffering than the world has ever known.

The explosion of a single bomb transported us physically from one age into another, but the mental transition to our new position in the world has demanded more time. This was to be expected. Those of us who, by reason of our position in the atomic development, realized to some degree the implications of our new-found opportunities and obligations, did not anticipate that there would be such a delay as we have experienced in this mental transition of our national leaders and of our people. We did not anticipate that socially, intellectually, and spiritually our leaders and our people would remain so closely bound to the recent past.

Yet, at that very moment when our bodies cross the frontiers into new realms which will require in us all those characteristics, both physical and mental, of fortitude, ingenuity, and daring possessed by our pioneer forefathers, the cry of many people is for personal security. This is the great tragedy of our time.

The author, now retired from the United States Army, is vice president of Remington Rand Inc. This article is adapted from his recent speech before the Military-Industrial Conference in Chicago.

For such security can never be an end in itself. It implies the acceptance of our present standards as our ultimate level of attainment. Individual security, once achieved, breeds complacency and inhibits that willingness to take a chance which has been such an essential element of our progress. Collective security requires conformity, and conformity by our nation to a static standard can lead only to mediocrity, enervation, and destruction. The hour of our entry into the Atomic Age is no time for Americans to be chasing the illusion of security.

Dynamic Period

Whether we like it or not, we are living in a dynamic period. With half, and I sometimes think much more, of the peoples of the earth subscribing to the belief that we and our way of life, including our high standards of living and our hopes and expectations for even higher standards, must be exterminated, we can ill afford to stand still. Perhaps it would be possible for our generation to enjoy the fruits of our predecessors' labors before the clock finally runs out on us; but what of our children and their children? Our first obligation is to them. We must pass on to them a better America than we received, and to do that we must insure that those who follow us will be adequately prepared to take up these new responsibilities. They must be educated to live in an Atomic Age.

Our educational system has shown itself presently incapable of meeting this challenge which has risen to confront it. It is not producing young scientists, engineers, technicians, and leaders in the numbers which we require. Every day real bargains in the development of our national resources and I include the American people as the most valuable of these - go begging for want of individuals sufficiently skilled to exploit them. We must recognize that the time will come when these same bargains of today will have to be taken up not at bargain prices, but at premium prices. And more important, our very life as a nation will be endangered by our acquiescence in continuing the serious shortage of men trained in the sciences upon which we rely for our defensive armaments.

But most important of all is the lack of sufficient numbers of citizens whose minds have been tempered by rigorous schooling to inure them for leadership in the innumerable activities of government and industry in this new age.

In our blind conformity to the mean, we have evolved a new and different set of values. The old precept of mind over matter has been upset by the great leveling-off process which has so drastically reduced the spread in wages between the common laborer and the professional man. Today as far as financial return is affected, mind and matter are nearly equals. And just as this drift towards the Marxian ideal of an amorphous, classless society has already removed much of the incentive from developing professional skills, so has the warped extension of the Jeffersonian principle that all men are created equal into the concept that a college education is every American's birthright, made the process of developing these skills increasingly more difficult.

Degrees Overemphasized

Intellectual attainment is no longer the measure of a man's education. Today all scholarship is expressed in terms of degrees, which are, in turn, generally speaking, mere functions of time passed in school. Our youth is led to believe that a Bachelor's degree in Physical Education or in Home Economics is every bit as good and desirable from the country's standpoint as a

(Continued on page 231)



By PHIL HIRSCH

Group of executives on Northwestern University Campus

Executives Also Go To School!



A statistics class at University of Chicago

HE public hears a lot about the shortage of basic raw materials and the shortage of trained technical men. But the most serious shortage American business faces today is the shortage of top management talent."

The author of this outspoken statement is James Nance, president of Studebaker-Packard Corporation. He, along with a good many other businessmen, is worried about the executive shortage for substantial reasons. The lack of trained reserves already has

created a major problem for the management team in a host of industries.

You can obtain an idea of how big the problem is from the recent statement of a management expert that "American business today is producing goods at more than double the rate in 1940, yet many key administrative staffs are no larger than they were 15 years ago."

A study made in 1952 by Booz, Allen, and Hamilton, management consultants, showed in detail what this tremendous expansion of productivity has done to the nation's executive workforce. Companies are adding executives at a rate 46 per cent faster, and are losing them 29 per cent faster, than before World War II. This conclusion was based on a survey of 1,000 positions in 100 companies, and included firms with annual sales volumes of from \$50 million to several billion dollars, representing 14 industries.

Separation and accession rates were broken down by industry. In the former category, five of the six durable goods industries checked, and three of the eight non-durable goods industries reported increases of more than 50 per cent. Four durable goods industries, and three dealing in nondurables reported a jump in accession rates amounting to more than 50 per cent.

Correlation Exists

There is a definite, although admittedly rough, correlation between these high turnover figures and the size of the executive shortage, according to Richard Wise, partner in Booz, Allen, and Hamilton. For the most frequent reason executives gave in the study for leaving

their jobs was "the desire to step up immediately to a bigger job with more responsibility." The bigger the shortage, Wise points out, the larger is the number of "big" jobs available.

Results Can Be Serious

To those who have stayed in the trenches, these losses, together with the dearth of replacements, have meant more work, more responsibility, and in many cases, a less efficient organization. As the Harvard Business Review commented recently, "Executives today are overworked, are aging ahead of their time, and have no time for the kind of reflective thinking that is necessary if industry is to progress."

In the marketplace, the lack of trained executives to fill all the positions on the management team can have serious results. One company, which has doubled its sales volume during the past five years, stands a good chance of losing at least 30 per cent of the increase this year, according to the management consultant who surveyed the problem. He says the cause of the trouble is lack of an adequate marketing program and lack of efficient sales supervision. Both of these weaknesses, adds the consultant, are directly traceable to the lack of a top-flight sales executive. The firm has been attempting to find one for the past three vears.

The executive shortage can't be blamed entirely, though, on the postwar expansion of the economy and the scramble of key men upward. An even bigger reason, probably, is the lack of executive material on the lower rungs of the ladder. Most of the men who occupy middle management positions today are experts in specific fields such as accounting, sales, production, engineering; but many of them know little or nothing about operations outside their own departments.

As John L. McCaffrey, president of International Harvester Company, put it a few years ago: "The president of a company has no great trouble in finding men to run a section or a department, where one line of work is followed. But he tosses plenty over the problem of finding executives who have the wider knowledge, more general savvy, and enough background of the right kind to run a whole group of things. The president finds he has more and more specialists, and fewer and fewer general executives just below the top level. Some of these specialists he simply cannot promote. And even with the others, if he does promote them, he has to ask them to make a sudden and radical change in the thinking and acting habits of a lifetime."

If you look at the executive shortage one way, you can't escape

the conclusion that things are bound to get worse before they get better. According to some experts, one of the main reasons Mr. Mc-Caffrey and his fellow company presidents are losing sleep over this problem of specialization is the depression.

During that great upheaval, many men who comprise the middle management group today were being educated. Many had to exchange a broad, general schooling for one that was not so broad but offered a little more assurance of a job. Others had to trade the ivywalled campus in on a timecard. On the job, those who advanced generally were those who concentrated on mastering the operations of their own departments. In either case the chance for a broad, general business education suffered and the groundwork for the present impassé was laid.

Didn't Stop Trend

The trend toward specialized education didn't stop, by any means, with the depression. According to a recent survey, the number of liberal arts-basic science majors in American colleges dropped from 43 to 37 per cent of the students graduating from institutions of higher learning between 1940 and 1950. Today, at one western school, students working toward

(Continued on page 164)

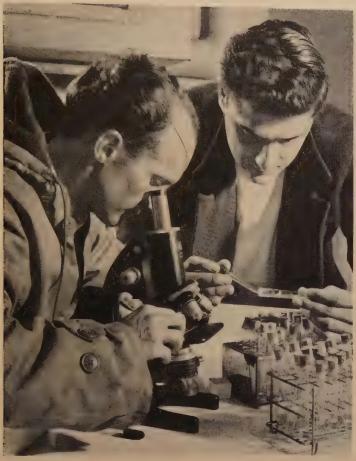


Small group sessions, with discussion leaders drawn from among members of the class, pinpoint problems



Graduates of University of Chicago's Executive program attend annual meeting to hear well-known speakers

Emotions and the Heart



Heart research at 0° Centigrade

Chicago Heart Association photo





Dr. Edward Weiss

A relationship exists between emotions and high blood pressure, but what is it?

NE of the most important and the most neglected phase of heart disease is also the most obvious. It has to do with the emotions.

From time immemorial the heart has been regarded as the traditional seat of the emotions. Moreover, it is the organ of sudden death. Little wonder, then, that it acts as the focal point for anxiety.

The author is professor of clinical medicine at Temple University, Philadelphia, Pennsylvania. His article has been adapted from his speech delivered January 12, 1955, before the "Heart in Industry Conference" sponsored by the Chicago Heart Association in cooperation with the Chicago Association of Commerce and Industry and other organizations.

In addition to the enormous number of people who have organic heart disease, there is an even larger number of people with symptoms referred to the heart region who do not have organic heart disease.

They complain of pain in the heart region which they refer to as the left chest. They complain of palpitation or pounding of the heart which is felt in the heart region or throughout the body.

They complain of breathlessness, which they illustrate by placing a hand on the chest and saying, "Doctor, it's so difficult for me to take a deep breath, to fill my

lungs with air." It is an indication that they do, indeed, have a load upon the chest which they can get off by talking about their problems if they could find somebody to listen.

And they complain of fatigue, fatigue which is sometimes over-whelming, fatigue which is just as pronounced in the morning as it is at night when they go to bed. They may be actually incapacitated from these symptoms.

These symptoms occur when people predisposed by heavy burdens of anxiety meet certain life situations to which they are vulnerable. Then a sticking pain or an ache in the left side of the chest, a skipped heartbeat or some shortness of breath is enough to raise the suspicion of heart disease in the predisposed person.

Too often the medical man adds to the patient's overconcern about his heart. It happens in industrial medicine. It happens in military medicine. It happens in insurance medicine and it happens in private practice.

How It Happens

How does it happen? Take a man who fails a physical examination for insurance. Perhaps he is told that it is his blood pressure He goes to his family doctor to find out. Angrily, he wants to know why he was turned down. His physician takes his blood pressure. If he is the kind of physician who is overconcerned on this subject, he is apt to watch the murcury mount in the instrument. As it reaches a level of 200 or thereabout, he may whistle and say, "Whew! What a blood pressure!" This is often the beginning of a cardiac neurosis in a predisposed person.

The same could happen in an examination for military purposes, or in industrial medicine if the physician is too concerned about the overactive heart of this individual. Perhaps the doctors hears a

peculiar sound at the apex of the heart. He calls over a colleague. They listen together and take a very grave view (so the individual thinks) about the organ, raising more suspicion about it.

It could happen if an electrocardiogram is taken and the physician says, "Well, there is a slight deviation of this curve but I don't think there is anything the matter. You take it easy and we'll check this again in a few months." This procedure raises the suspicion on the one hand and tries to reassure the patient on the other. It just doesn't work.

Must Handle With Care

When a doctor examines patients who have a predisposition to anxiety, it's true he has to be careful to examine them to make sure that they don't have heart disease. He has to satisfy them with laboratory tests, as well as satisfy himself. Thereupon he has to say with conviction, "You do not have heart disease. There is nothing the matter with your heart." And then the doctor must gradually try to make the patient understand that the symptoms are of emotional origin.

I use the term "emotional" advisedly because "just nerves" gives

The long, uphill conquest of high blood pressure is being carried on here. At left, a technician is preparing a vaccine containing renin from the kidney of hogs. The two masked surgeons are inducing high blood pressure in a dog.

the impression from an unsympathetic physician that they are malingering or implies that the illness is imaginary which is just as bad. The symptoms are just as real as cancer but they are of a different origin.

To say that the illness is functional doesn't offer sufficient explanation. People frequently don't understand. The problem is not an easy one because the person is apt to insist that there must be something the matter. He can't understand that such a disturbance can arise unless some vital organ is affected.

Trying to persuade the person that he doesn't have heart disease, often accomplishes nothing because you can't argue with an obsession. The mixed feelings and the conflict that underlie the anxiety have to be reached. This can only be done by encouraging the person to talk about his personal problems.

Getting Patients To Talk

Put it another way. The more the physician can persuade his patients to talk about themselves as human beings rather than as medical cases the sooner he will come to understand the nature of the problem. But this isn't always easy.

Not long ago a middle-aged businessman came to see me. He complained of the symptoms that

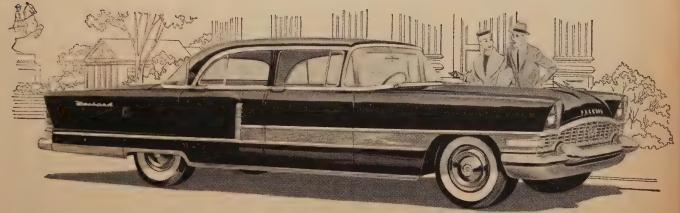
(Continued from page 220)





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U. P. photo

The author, left, meets with President Eisenhower and some of his advisers

BOOM OR BUST ECONOMY OBSOLETE

By DR. ARTHUR F. BURNS

RECENTLY the President submitted his annual economic message to the Congress. This report reviewed current conditions and set forth a governmental program for sustained economic growth. It also summed up the President's economic philosophy by reaffirming his faith in the capacity of an economy based on free and competitive enterprise to create new jobs, to increase production, and to improve the living standards of our people.

This faith in the capacity of free enterprise to generate economic growth is based on the accumulated experience of generations. History has taught us that although govern-

The author is chairman of the Council of Economic Advisers to President Eisenhower. This article has been adapted from his recent speech in Chicago at the convention of the National Automobile Dealers Association.

ment has a constructive part to play in the affairs of a nation, no government can itself create real and lasting prosperity. A nation succeeds and prospers only as its people succeed and prosper. A thriving economy depends on the enterprise of individuals. However important governmental actions and programs may be, they cannot, of themselves, lead to great economic achievements. The foundation of the economic strength of our country consists today, as it has during the past, in our free institutions and in the qualities of the American people — their ambition. skill, enterprise, and willingness to make great efforts in their own behalf and in behalf of their families and communities.

It is important to reassert these basic truths, especially at a time when theories of an all-powerful and beneficent state, which have stirred and confused the world, are echoed in our own country. During the 1930's, some economic thinkers developed the doctrine that our economy had reached a stage of maturity, that the opportunities for new private investment would be severely limited in the future, and that the federal government would therefore need to embark on large and increasing spending programs if mass unemployment is to be avoided. While this theory of economic stagnation, and its corollary of expanding governmental intervention, have been roundly discredited by the course of events, it still has some advocates. Their voices are heard and their influences are felt from time to time.

The War Effort

In 1944 our nation devoted over 40 per cent of its total production to the war effort. As the war approached a close, it was feared by many that the demobilization of the armed forces and the curtailment of military production might be followed by an economic collapse. This anxiety about the ability of our economy to function smoothly upon the return of peace was entirely natural at the time. As events turned out, the fears proved unfounded.

In the first quarter of 1945 expenditures on national security were at an annual rate of \$91 billion. Two years later the corresponding expenditures were only \$14 billion. This huge drop in military spending did not cause, however, any significant unemployment. Some women, youngsters, and elderly workers left the labor force voluntarily. The others who were released from defense plants or the armed forces were quickly absorbed in private employment. As the nation's military expenditures declined, the private economy kept expanding. By the first quarter of 1947, civilian spending had more than offset the \$77 billion drop in military outlays.

In 1949 our economy met its second test of the post-war period. When a recession got under way in the fall of 1948, the stagnationists again proclaimed that a depression was in the offing. Once again the fears of economic depression

(Continued on page 201)





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Record Making Making Records

Flood of government forms each year costs taxpayers \$4 billion, Hoover survey finds

ID you know that the United States Government circulates, each year, about 25 billion pieces of paper, including about 18 billion forms and questionnaires, at an annual cost of about four billion dollars to prepare, send out, and file?

This is one of the discoveries of the Second Hoover Commission, which decided that what this country needs is some "birth control" in federal documents. The commission has formulated recommendations for eliminations that will save the taxpayer about \$250 million of this annual cost.

It is also trying to find out how much this flood of government paper costs business and the individual citizen in terms of clerical services, lawyers, and accountants, not to mention loss of sleep. It suspects that additional savings can be made through simplification of the contents of these forms — including tax returns — although it recognizes that the federal government needs to know a lot about both individuals and businesses if it is to operate efficiently and collect taxes.

Commission Revived

The Second Hoover Commission is a revival of the organization which operated from 1947 to 1949 under the chairmanship of former President Herbert Hoover. The first commission, devoted chiefly to reorganizing the government in its physical setup in the interest of efficiency and economy, made 273 recommendations of which 196, including all the major ones, have since been given effect. Some of the rest, like the proposed four-

cent rate for first class mail, are still being debated in Congress.

Despite the real progress which resulted from this study, the government lost ground in economy and efficiency as a result of the Korean war and the rearmament program. That commission made recommendations which it estimated would save something like \$3 billion if put into effect, but when the national budget suddenly jumped from \$40 billion to \$70 billion to meet a wartime production spurt, naturally there was no way of telling how much real saving had resulted.

Power of Subpena

Accordingly, after President Eisenhower took office he invited Mr. Hoover to make another try, and Congress passed legislation giving the second commission wider powers. For example, it was given the power of subpena, which, however, it never had to use and license to consider questions of policy, as well as organization. This promises to make its recommendations more politically controversial than before.

The new Hoover Commission was sworn in September 29, 1953, and like the first it divided into task forces and subcommittees to deal with the various functions of government. Emmet J. Leahy, president of a management consultant firm in Darien, Connecticut, headed the task force on paperwork management.

The commission expires, under the enabling legislation, on May 31. It hopes to meet this deadline although it may have to ask one or two months' extension to clean up its business. It filed a progress report with Congress after the new session convened in January, serving notice that 26 separate reports would be coming along. Now the first are beginning to emerge.

The first batch included the paperwork report (Part 1) mentioned above, and one on personnel and civil service. Others to follow soon cover budget and accounting, legal services and procedure, lending agencies, medical services, and the use and disposal of surplus property.

Typical of the findings in some of these reports are these facts:

Today the federal government has 104 agencies engaged in the business of lending, guaranteeing, and insurance, involving financial operations of more than \$250 billion.

The government has accumulated surplus and obsolete real and personal property which cost a total of \$30 billion. Just keeping this property requires a multitude of warehouses costing millions for rent and operation.

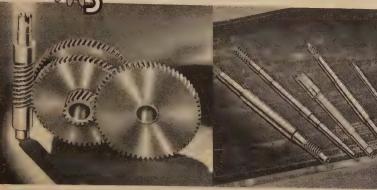
Examination of government-inbusiness revealed some 1,500 enterprises, big and little, which compete with private industry.

Additional Reports

Later on will come additional reports on subsistence services, water resources and power, overseas economic operations, paperwork management (Part II), procurement, defense transportation, defense depot utilization, research, an overall report on the business organization of the defense department, and one on the government's intelli-

(Continued on page 253)

Fractional Horsepower Gearing

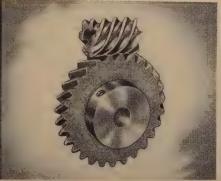


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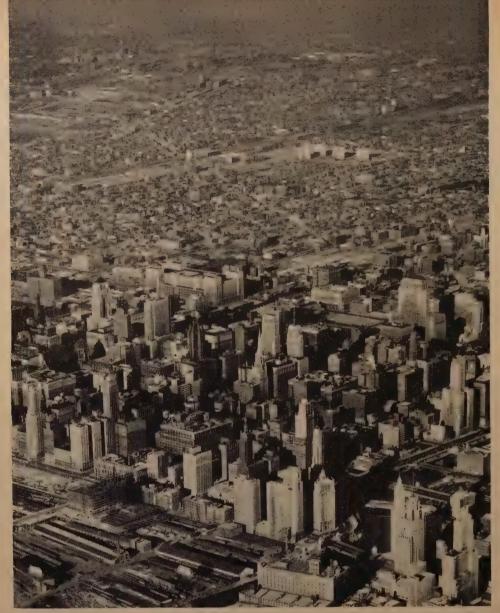
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Chicago Aerial Industries photo

In the following pages COMMERCE presents a detailed review of Chicago area business in 1954. Principal articles are indexed below.

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Chicago Business in 1954



Preparing ampuled solutions at G. D. Searle plant



Refrigerators on production assembly line at Hotpoint

A SOLID upswing in the final months of 1954 largely overcame the effects of a slow start and by the year end Chicago business had rung up the best year in its history with the exception of record setting 1953.

Retail trade was the brightest spot in the generally satisfactory picture, climbing to an estimated \$7.05 billion to outstrip the previous high record of \$6.9 billion made in 1953. The biggest Christmas buying spree by consumers in history provided the final filip to the year's business. Retailers reduced inventories over the 12 months period and wholesale trade failed to measure up to retail volume, totalling an estimated \$17.2 billion against \$17.8 in 1953.

For manufacturers 1954 results were mixed. Production of consumer consumption lines generally showed results comparing very well with 1953. Producers of consumer durables usually were down somewhat more, and heavy capital goods production sustained a sharp setback, notably in the railroad and farm equipment fields. Overall industrial production for the area was estimated at \$17 billion, or 7.6 per cent under 1953's \$18.3 billion total.

In construction, home building soared to a new high record and industrial building gained sharply.

Chicago markets had an excellent year, with the Mid-West Stock Exchange and Mercantile Exchange setting new peaks in volume of trading. The Board of Trade enjoyed its best volume in futures since 1937.

Putting bottoms on metal cans at American Can Co.

Assembling a main generator for diesel locomotive at Electromotive





Chicago's busy State Street

Chicago area retail sales top \$7 billion mark

HE retailer's lot was not a simple one in 1954-competition grew more complex, sales of "big ticket" items dropped, and struggles over fair trade and franchises increased in intensity. But, by trotting out their best promotional skills, retailers in the Chicago metropolitan area rang up an impressive volume. Total sales

MONTHLY INDEX OF CHICAGO DEPARTMENT STORE TRADE

Daily average: 1047.40 -- 100\

	1954	1953
January	85	84
February	85	84
March	83	. 95
April	102	99
May	108	109
June	106	103
July	83	83
August	93	91
September	109	104
October	109	108
November	. 130	132
December	179	176
Year	106	106

Source: Federal Reserve Bank of Chicago.

ANNUAL INDEX OF DEPART-MENT STORE TRADE IN

> CHICAGO (1947-49=100)

106 1947 1953 106 1946 1952 104 1945 1951 108 1944 66 1950 100 60 1949 1948 1941

hit an estimated \$7.05 billion, an increase of \$150 million over 1953's \$6.9 billion.

Despite the competition of suburbia's glittering new shopping centers, city merchants scored the bigger gain - \$100 million, or two-thirds of the area increasefor an estimated Chicago total of \$5.2 billion, compared with \$5.1 billion in 1953.

Three new shopping centers joined the five in operation at the beginning of 1954, with twentytwo more announced as under construction or on the drafting boards. The "trend" of a year ago had be-

come a rush to the suburbs, prompting considerable debate in retailing and real estate circles on the merchandising methods of the future.

Meanwhile, sturdy State Street held its own, a proud exception to the national tendency toward declining sales in central business districts. The Chicago Federal Reserve Bank's index of department store trade showed 106 for the year—the same as in 1953 and only two points below the record high

COST OF LIVING INDEX IN **CHICAGO**

(1947-49=100)January February March \pril May June July August September October

November

December

of 1951. To maintain this level in 1954, department stores had to increase the number of their transactions, since sales of some major appliances and other higher priced items were down. The year also was a good one for State Street's smaller merchants, especially during the fall and Christmas seasons when a cooperative weatherman put shoppers in the mood for seasonal apparel and gift-giving.

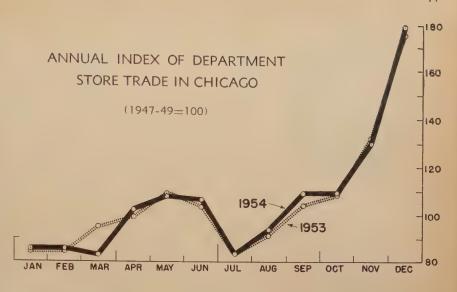
One observer compared the year's retail experience to a football game, with the city team thrown for a loss in the first quarter, holding its own in the second and third, and coming up with a prize winning point after a touchdown in the final seconds of the game.

Randall Cooper, president of the State Street Council, feels that the aggressive program designed by Loop merchants to hold and expand their business is paying off. Council members have spent \$70 million in recent years on store improvements—and not a Chicagoan nor a visitor can escape the concerted promotion that extolls State Street's and the city's glories.

Promote Attractions

The Council takes full advantage of the Loop's many attractions, from banks to Brahms; 25 per cent of its radio spots push the diverse offerings peculiar to downtown Chicago—theater, art, music, first-run motion pictures, etc. Special promotions are tied in with big cultural or entertainment events, such as the launching in 1954 of the Art Institute's picture-rental service, the movie, "White Christmas," and the telecast from State Street of the NBC show, "Home."

Morever, the merchants have moved to tackle some of the city's more fundamental problems. Their efforts to improve parking facilities saw the first fruit in the September opening of the world's largest underground parking area, in Grant Park, serving 2,359 cars, followed a few weeks later by the completion of two out of four new municipal garages for the Loop. Operating on the premise that "if it's good for Chicago, it's good for State Street," the merchants also have helped lead the city's efforts



to improve transportation and rebuild slums.

The results of this many-pronged program can be seen in an illuminating contrast. In 1954, the same year that saw venerable Wanamaker's close its doors in New York, State Street said good-bye to one of the last of its eyesores, the old Rialto Theatre near Van Buren Street. Significantly, the Rialto is being replaced by retail stores.

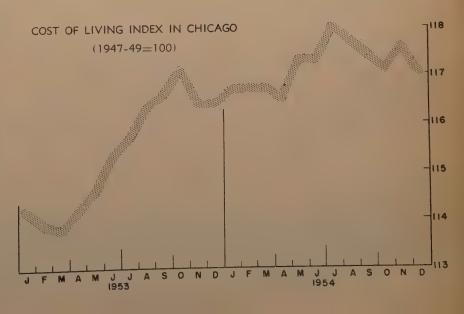
At the edge of the city and in the trading zone around it, the race for the suburban family's dollar sped to a full gallop on a crowded track. At the beginning of the year there were five of the planned shopping centers in operation—Park Forest, Evergreen Plaza, Lincoln Village, Village Market at LaGrange Park, and Hometown at Eighty-Seventh street and Pulaski. Woodmar, near Hammond, Ind., and Morton Grove opened during

the year, as did the regional Lake Meadows center on Chicago's south side. By the end of the year, announcements or ground-breakings for additional centers brought the total to thirty, with several scheduled to open during 1955.

Caution Signs Appear

In the midst of this retail rush to the suburbs, some Chicago merchants noted signs they interpreted to read "caution." A new shopping center near Boston went into the red. One near Detroit was observed to be siphoning off valuable charge-account trade from the downtown stores. A new one near Chicago has diverted enough trade to be uncomfortable for a well-established shopping district in a neighborhood nearby in the city. Some of the proposed new centers

(Continued on page 173)





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Wholesale volume for area

declines slightly during year

WHOLESALE trade in Chicago and the metropolitan area declined in 1954 about 3 per cent below 1953, but remained at the high total of \$17.2 billion, compared to \$17.8 billion for the previous year. Chicago's share was \$15.1 billion, against \$15.6 billion for 1953. Like many other fields, wholesale trade appeared to have stabilized at a high level in the course of the year.

Reflecting the somewhat softened market for "big-ticket" items at the retail level, wholesalers of consumer durable goods experienced the biggest decline, or approximately 7 per cent below 1953. Movement of non-durable goods, however, declined only 1.1 per cent. Luxury items, too, moved at a somewhat slower pace — one wholesaler of hardware and sports items reported, for example, that sales of ammunition were up but sales of guns were down.

Except for farm products and food, wholesale prices remained extraordinarily steady during the year, fluctuating no more than a point from the Department of Labor index of 110 in June. Farm products rose slightly in the first half of the year, then reverted to the decline which began in late 1951.

Inventories, for the most part, were back in line. In fact, the trend of the first six months to reduce inventories caught some wholesalers short when sales began their fall upswing. By mid-November, wholesale inventories again were being built up.

National wholesale inventories of both durable and non-durable goods had reached a peak of \$12.2 billion in October, 1953, from which they continued to drop to a low of \$11.5 billion, in June, 1954. By October, they had climbed back to \$11.9 billion.

Durable goods inventories fluctuated between \$6.053 billion in March and \$5.654 billion in October. Inventories of non-durable goods hit a low in May of \$5.513 billion, and were back up to \$6.283 billion in October.

Lumber and other building materials and supplies continued to ride high on the crest of the building boom. Wholesale apparel sales dropped somewhat — women's apparel was off from 2 to 3 per cent, and men's clothing dropped about 4 per cent. Hardware declined an estimated 5 per cent.

Wholesale drugs continued their steady upward trend, bettering their 1953 mark and indicating another good year in 1955. Sales of drug staples have been holding steady, while the market as a whole continues to expand with the discovery and production of new drugs and the improvement of older ones.

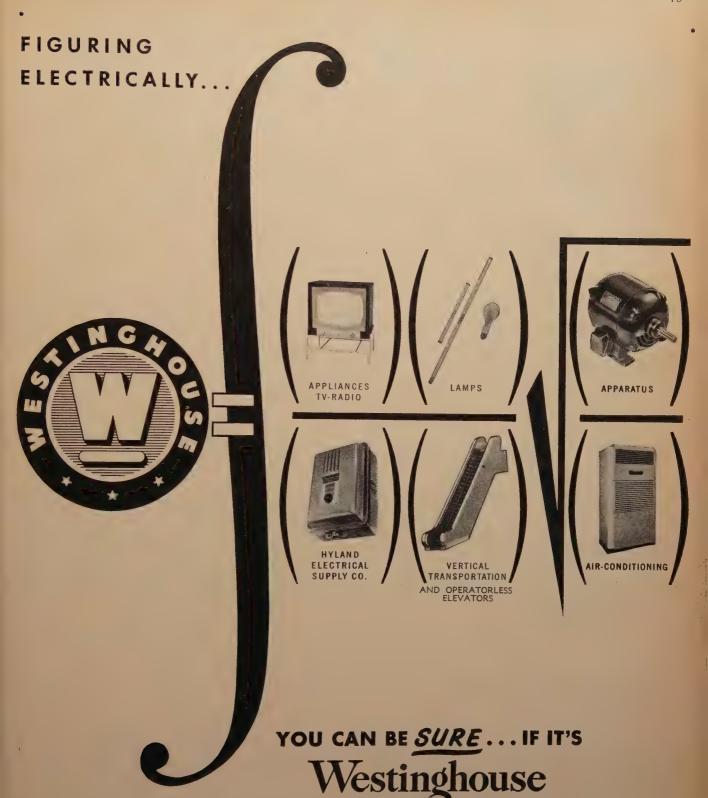
Wholesalers of drug staples and some housewares lines found additional outlets in the expansion of the retail grocery practice of stocking non-food items. Some grocery wholesalers in the Chicago area are adding the non-food lines and servicing them direct to their customers. In other instances, jobbers supply the retailer, installing and maintaining his display, while the food chains tend to buy direct from manufacturers. Non-food items, which proved popular in the course of the year, ranged from kitchen utensils to bedding and dishes.

Grocery Sales Up

The Wholesale Grocers Association of Chicago reported business was up over 1953, with the increase estimated by the Chicago Association of Commerce and Industry at around 3 per cent.

One of Chicago's largest former general wholesalers, Butler Brothers, moved closer in 1954 toward its changeover to a completely franchised operation, a transition the firm expects to complete in 1955. At year's end, Butler had franchised another 289 Ben Franklin Stores, to bring the total to 2,286, of which 751 are served by the Chicago warehouse. The firm reported an increase of more than 10 per cent in its franchise business over 1953.

Employment levels in the wholesale trades dropped somewhat for a yearly average of 164,500 in the Chicago metropolitan area, compared to 167,800 for 1953. The year started with a high of 167,200 em-



NWJ-6A

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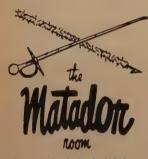


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ployed in January, and reached a low of 162,800 in May.

The more than 500 trade shows held in Chicago during the year brought over half a million buyers to the city. The largest shows, those for furniture and home furnishings, were marked by conservative buying at the January showings, consistent with the national effort to keep inventories down pending another upturn in retail trade. Business at the July showings was considerably improved over January, as retailers viewed fall prospects with more optimism.

Response to the Chicago toy show, held here in June for the first time in several years, was so good that two toy showings are being planned for 1955. A factor in the revival of the toy show is the growing spread of toy sales throughout the year, with consequent trade improvement. Where some 80 per cent of toys formerly moved during the Christmas holiday season, holiday trade now accounts for an estimated half of the increasing year-round activity.

Wholesalers in the Chicago area enjoyed a good year, but they exerted more sales drive to achieve it. Competition on price, style and quality was keener than in the three preceding years, with the outlook for 1955 substantially unchanged.

Postal activity increases,

Receipts total \$148.6 million

POSTAL receipts of the Chicago Post Office increased to \$148,-652,833 in 1954, a gain of 5.96 per cent over the 1953 receipts of \$140,-286,634.

The volume of first class outgoing mail was slightly higher for the year. It totaled 1,909,788,820 pieces, up 1.29 per cent from the 1953 volume of 1,885,301,651 pieces.

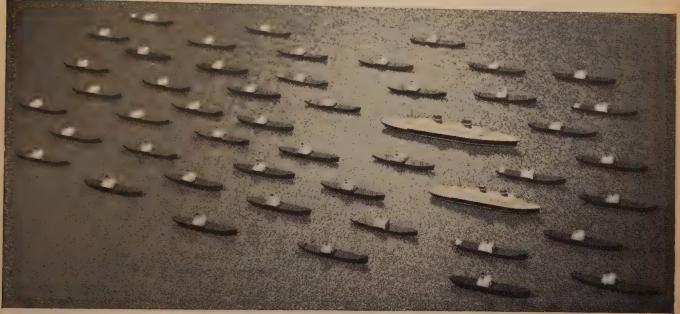
The outgoing pieces of circular mails and "outside" mail also increased. Outgoing circular mail in 1954 totaled 1,152,989,353 pieces,

an increase of 10.76 per cent over the 1,040,957,287 pieces in 1953. Outgoing "outside" mail in 1954 amounted to 6,770,933 pieces, a slight increase of .86 per cent over the 6,712,834 pieces handled in 1953. The "outside" category includes objects not carried in mail sacks but handled separately, such as fluids in gallon or larger containers, garden rakes and other large or heavy items.

The only outging mail to show a decline in 1954 was parcel post mail handled in sacks. It dropped

	1954	1953	Per Cent Gain
Postal Receipts	\$ 148,652,833,31	\$ 140,286,633,51	5.96
Outgoing Mails:		,,,,	0.00
First Class (Pieces)	1.909.788.820	1.885,301,651	1.29
Circular Mails (Pieces)	1.152.989.353	1,040,957,287	10.76
Parcel Post (Sacks)	26.467.271	28,327,296	6.56*
Outside (Pieces)	6,770,933	6,712,834	.86
Incoming Mails:			
First Class (Pieces)	1.405.878.184	1,422,044,043	1.13*
Circular Mails (Pieces)	460,222,518	439,596,886	4.69
Parcel Post (Sacks)	3,728,581	3,993,372	6.63*
Parcel Post (Sacks) Outside (Pieces)	2,844,026	2,583,984	10.06
Other C'asses (Sacks)	. 1,914,014	1,727,054	10.82
Domestic Money Orders Issued:		-,,	
Amount	\$ 57,464,290.57	\$ 59,227,368.89	2.98*
Transactions	3,247,539	3,460,088	6.14*
International Money Orders Issued:	-,,,	0,100,000	0.11
Amount	\$ 1,357,207,77	\$ 1,351,994.83	996
Transactions	63,129	62,762	.386
Postal Savings:	. , 00,124,5	04,704	
Amount on Deposit	\$ 156,004,709,00	\$ 170.837.301.00	
Number of Depositors	221,447	7 = 1 0,001,001.00	0.00
Vehicle Service:	- 441,44/	237,209	8.68*
Miles Traveled	11.094.010	11.000.010	
Traveled	. 11,934,219	11,236,017	6.21
*Decrease			





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United States Lines



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General Office: 1142 Newton Street • Akron 9, Ohio Phone: REpublic 3-2221 6.56 per cent during the year to 26,467,271 sacks compared with 28,327,296 sacks handled in 1953.

Parcel post in sacks and first class mail coming into the city was less in volume in 1954 than in 1953. The other classes of incoming mail showed increases of four to ten per cent.

The volume of incoming first class mail was off only slightly, 1.13 per cent. In 1954, 1,405,878,184 pieces of incoming first class mail were handled compared with 1,422,004,043 pieces in 1953.

The number of sacks of incoming parcel post dropped 6.63 per cent in the year. The 1954 volume was 3,728,581 sacks compared with 3,993,372 sacks in 1953.

Incoming circular mails totaled 460,222,518 pieces in 1954, up 4.69 per cent from the 1953 total of 439,596,886 pieces.

Business failures show big increase

ORE businesses failed in Chicago in 1954 than in 1953. It was the first time in six years that business failures showed an increase over a previous year.

While the number of businesses failing increased 24 per cent, the aggregate amount of liabilities involved in the failures doubled.

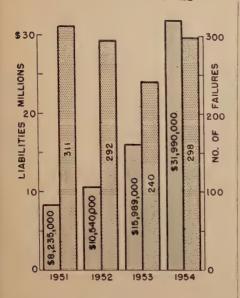
Dun & Bradstreet, Inc., reported that 1954 business failures totaled 298, as compared with 240 in the previous year. Liabilities totaled \$31,990,000 for the firms that got

CHICAGO BUSINESS FAILURES

1954				1953			
Jan.	Direction of the latest	15	\$ 586,000	18	\$ 703,000		
Feb.		26	3,789,000	14	751,000		
Mar.		40	15,822,000	28	2,227,000		
Apr.	****	33	1,605,000	13	1,093,000		
May	-	33	973,000	19	918,000		
June	-	27	1,403,000	28	1,536,000		
July	MI I'm harves standard was seen	19	1,156,000	14	1,968,000		
Aug.		25	711,000	25	927,000		
Sept.			2,952,000	16	2,804,000		
Oct.	W-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	18	224,000	21	1,212,000		
Nov.		23	495,000	21	298,000		
Dec.	has the sample operate desired	21	2,274,000	23	1,552,000		
То	tal	200	\$91,000,000	040			
10	tai	490	\$31,990,000	240	\$15,989,000		

Note: Dun and Bradstreet defines a failure as follows: "A business failure, as defined for this record, occurs when a commercial or industrial enterprise is involved in a court proceeding or a voluntary action which is likely to end in loss to creditors."

BUSINESS FAILURES



into difficulty last year against \$15,-989,000 in 1953.

In 1952 there were 292 failures with aggregate liabilities of \$10,-540,000. In 1951 the number of firms failing was greater than in the year just past but their aggregate liabilities were only about one-fourth of the 1954 total. The 1951 count was 311 failures with liabilities of \$8,235,000.

Trouble spots loom for collection men

A RISING number of marginal accounts is one of the major problems confronting credit executives of business firms today. Also confronting credit men is an apparent slight increase recently in the number of customers past due in payment of their bills.

Despite these factors, there are distinctly bright spots in the status of accounts receivable as disclosed in the recently completed quarterly survey of the Chicago Association of Credit Men. For one, the survey made as of last November showed that the average age of accounts receivable in the Chicago area declined to 27.1 days from 28 days in August. The average age in November, 1953, was 27.8 days.

The survey also disclosed that the Chicago area, for the most part, fared better than the country as a whole in collections. The average age of accounts receivable nationally was 33.9 days last November,



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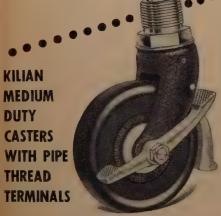
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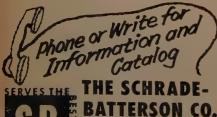
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806 W. Washington Chicago 7, Illinois CHesapeake 3-9400 compared with 32.7 days in August and in November, 1953. The Chicago area's industry diversification, which makes for more stable business generally, accounts for its better relative performance, credit men said.

A review of 1954 in collection of accounts receivable showed some disparity in trends in the Chicago area among three major business classifications. Retailers improved their bill paying habits steadily until late in the year when an upturn occurred in the number of past due accounts. The bill paying performance of wholesalers, jobbers, and distributors was on a fairly level plane thru most of the year and improved rather sharply late in 1954. The percentage of past due accounts among manufacturing and industrial companies increased in early months of 1954, then struck a lower level, and increased again late in the year.

Favorable Trend

One of the more favorable trends shown in the November survey was an improvement in bill paying habits of wholesaler-jobber-distribution establishments. Last November 90.2 per cent of them were discounting or paying bills when due, whereas in August and in November, 1953, 86.5 per cent of them were paying promptly. Nationally only 84.9 per cent of those accounts were paying promptly.

Chicago area retailers slipped a little in payment of their bills late last year. In November 13.8 per cent of them were overdue in settling their accounts, compared with 12.5 per cent in August. The November experience, however, was far better than a year earlier when 19.5 per cent were overdue.

Chicago had a distinctly better experience in collections from retailers than was true nationally. In November, 1953, 19.9 per cent of retailers nationally were delinquent in their payments, compared with 19.5 per cent for the Chicago area. In November, 1954, the national figure had decreased only to 18.3 per cent, as against the 13.8 per cent for the Chicago area.

Manufacturing and industrial companies in the Chicago area also were less prompt late last year in payment of their bills. In November 13 per cent of them were delinquent, compared with 11.8 per cent in August and 11.1 per cent in November, 1953. In this respect Chicago lagged behind the country as a whole. Nationally, 12.7 per cent of the companies were delinquent last November, compared with 13.7 per cent in August and 13.8 per cent in November, 1953.

Al Potter, executive manager of the credit men's association, said the next quarterly survey, based on experiences in February, probably would show an increase from November in the percentage of past due accounts. He said this trend was indicated in conversations with credit executives and the number of claims being presented.

On a national basis, food products and allied stores are generally the promptest payers in the retail field while feed, seed, and fertilizer establishments are the slowest. This was shown in statistics of the Credit Research Foundation of the National Association of Credit Men. The Chicago Association of Credit Men conducts its surveys in cooperation with the foundation.

In the wholesale-jobber-distribution classification, stationery and office equipment and printing establishments had the largest percentage of on-time payments. Feed, seed, and fertilizer businesses had the smallest percentage. In the manufacturing field, paint, wall paper, and sheet glass companies as a group had the best record. Building material establishments collectively were the slowest payers.

Potter said the number of marginal accounts has been increasing since last March or April. In some instances this has resulted in an expansion of credit departments of companies. Potter said the trend emphasizes the need for caution.

Credit executives, of course, are mindful that marginal customers should not necessarily be avoided. Rather, they believe that judicious handling of this business may be important in this period of intense competition. Marginal accounts can be cultivated in several ways, such as giving sound advice on means of balancing inventory or reducing heavy investments in equipment, they said.

Potter issued a warning to credit executives in view of a rising number of bankruptcies. He said the executives should not be hasty in accepting compromise settlements.



Small foreign vessels make the long voyage to Chicago

Korth photo

Chicago's foreign trade increasing

HICAGO'S part in the foreign trade of this country is big and growing bigger but it is difficult to pinpoint statistically its exact contribution and importance in size.

Most products exported from and imported into the Chicago area are handled through ports on the West and East Coasts and Gulf of Mexico. At these ports the products lose their Chicago area identity and become enmeshed in national figures. Because of this statistics showing Chicago's importance to foreign trade have to be gathered piecemeal.

Total Value

For example the total value of agricultural machinery and implements and tracklaying type tractors shipped abroad during 1953 was \$284 million. What part did Chicago area companies contribute to this national export volume?

Figures available from two Chicago firms show that they accounted

for a sizeable part of the national total of farm machinery exported. International Harvester Company reports that its 1954 exports, exclusive of Canadian shipments, were \$88.6 million, about 11 per cent higher than in 1953. Oliver Corporation, which also headquarters in Chicago and produces farm equipment and tractors, shipped over \$16 million worth of products to foreign countries, also exclusive of its shipments to Canada. That was approximately 20 per cent of its total sales volume and an increase of six per cent over 1953 exports.

Those figures represent only two companies of one industry. Federal Reserve Bank reviews of business conditions in the midwest show that Chicago and its surrounding area produce big portions of the total national production in other industries too. These would include the electronic field, pharmaceuticals, machinery, transportation equipment, agricultural products and iron and steel products. The dollar volume of these products ex-

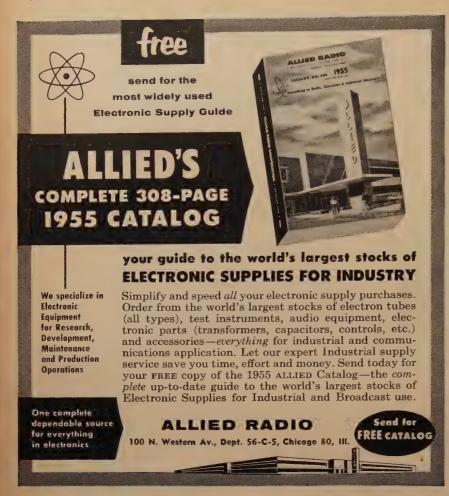
ported makes up a good part of the total national export volume.

For the nation as a whole exports for the first ten months of 1954 totaled \$12.5 billion, a drop of 4.3 per cent from the \$13 billion for the same period of 1953. National imports also dropped. They amounted to \$8.4 billion and were down 7.6 per cent from \$9.1 billion.

Direct Shipments

Thus by inference, the importance of Chicago production is projected into the national foreign trade program. The city also has a part in direct shipments to and from foreign lands. There were 216 foreign ships, excluding Canadian vessels, that called at Chicago ports during 1954 compared with 195 during the previous year.

Any foreign shipments directly to or from Chicago, whether they arrive or depart by land, sea or air must be registered with and inspected by the Chicago customs district office. This close federal con-



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SINCE 1912

2320 W. Ogden Blvd. • CHesapeake 3-6100 Industrial • Commercial Light and Power trol provides more exacting statistics and shows that Chicago is growing as a point of entry and departure for foreign shipments.

Exports handled through the Chicago custom district amounted to \$49 million during the first ten months of 1954, an increase of 22.5 per cent over the first ten months of 1953. Imports to Chicago decreased 22 per cent to \$94.7 million.

Most of the direct foreign shipments to and from Chicago are handled via Chicago's water routes with a sizeable amount shipped by airplane. Both types of shipment have been increasing with the greatest strides being made via water routes.

Eleven Lines Serve City

At the close of 1954 there were eleven foreign steamship lines with direct service between their homeland ports and Chicago. Two were added during the year. The Ellerman-Great Lakes Line inaugurated its service from Chicago and Milwaukee to Casablanca, Genoa, Leghorn, Naples and Marseilles, all ports in the Mediterranean, during August. The French Line announced the same month that it would start service between Chicago and Le Havre early in 1955.

More companies are making direct water-borne shipments from Chicago to foreign ports according to figures compiled by the Chicago custom district. This traffic for the first eight months of 1954 totaled \$28 million, an increase of 45.8 per cent from the \$19.2 million of goods shipped to foreign ports from Chicago ports in the like 1953 period. Water-borne imports to Chicago were down 17.3 per cent dropping to \$36.6 million from \$44.3 million.

Water-borne exports for the nation as a whole were up 3.1 per cent to \$5.3 billion for the first eight months of 1954. Water-borne imports for the nation amounted to \$4.6 billion, a drop of 13.6 per cent.

With an increase in the number of ships scheduled to call at Chicago ports, direct shipments to and from foreign lands should be even greater during 1955. A further increase in direct shipments to and from the Chicago area is also expected by air.

This year Midway Airport will

(Continued on page 227)



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Employment level high despite some layoffs

MPLOYMENT held at a high level in the Chicago area during 1954, despite fairly sizable layoffs in durable goods lines while excessive inventories were being worked off.

There was unemployment in the durable goods industries, but it was relatively small in relation to the number who retained their jobs. Moreover, many of those who were laid off in these plants were able to find jobs in other industries.

Unemployment totals climbed to the highest point in four years at midsummer, the seasonal low for business activity overall, but quickly receded. At the year's end a booming recovery was underway, especially in the steel mills, which had felt the full effects of the inventory readjustments by major customers.

Signs that the boom level business activity and stringent labor supply condition of 1953 were beginning to weaken, appeared as early as October of that year. Con-

sumers had apparently filled their previously insatiable demand for automobiles, television sets, and appliances. Inventories of these items, and of the materials with which to build them, suddenly looked inordinately large.

As manufacturers of durable goods cut back their production, steel mills were forced to curtail output too. Railroad freight traffic declined, and with it the demand for railroad equipment.

Employment Falls

Employment fell especially rapidly in the radio-television and fabricated metals industry. From mid-November, 1953, until mid-January, 1954, these two laid off more than 15,000 workers. Total unemployment in the same period rose from what the Illinois State Employment Service called a "near rock bottom" low of 55,000 to 105,000.

Employment held fairly steady in

March and April, the result of seasonal gains in non-manufacturing industries which offset the continued contraction in manufacturing lines. The number of unemployed increased, however, with the addition to the labor supply of midyear high school and college graduates.

By May the divergence of trends was especially marked. Non-manufacturing industries reached an all-time seasonal peak in employment, but the durable goods industries — particularly steel, radio and television, and transportation equipment — offset these gains with further layoffs.

Although unemployment reached a four-year peak in July at 175,000, highest since just before the outbreak of the Korean war, some indications of improvement were already evident. For instance, the work week in manufacturing industries was increased to 40 hours in June from 39.1 in April, and average earnings of production

workers reached the highest point since December, 1953.

Employment picked up substantially in late summer, with the largest gain in the electrical machinery category as makers of radio and television sets and home appliances rehired thousands of workers to replenish inventories for the fall and winter markets. The steel industry, however, continued to cut

down on payrolls.

At mid-November aggregate employment was approximately 87,-500 under the all-time November high of 2,200,000 reached in November, 1953. The decline was concentrated in the durable goods industries, which accounted for more than 76,000 of the job shrinkage. Among major industries the employment declines were: steel mills 10,600, fabricated metal products 6,000, non-electrical machinery 8,900, communication equipment (primarily radio and television) 7,300, transportation equipment 19,400, and miscellaneous manufacturing 5,100.

Other Layoffs

Employment in transportation was off 8,600, and in contract construction the decline was 6,600, but in retail trades the number of jobs was up about 600 from November, 1953. Also showing gains in the year to year comparison were finance, insurance and real estate, up 2,200; and service and miscellaneous non-manufacturing industries, up 6,900.

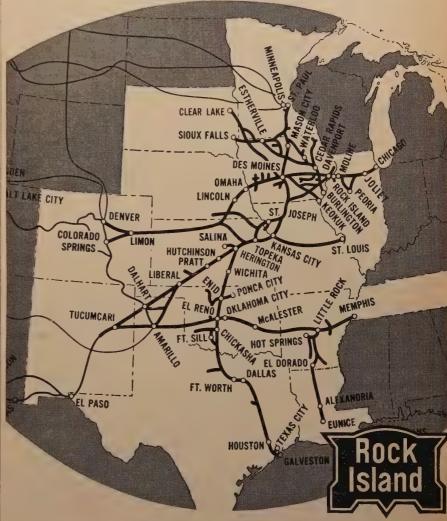
Laborers and unskilled workers, generally, made up the great bulk of those who were unemployed in 1954. A significant number who had entered the Chicago area labor market from other sections of the country returned to their homes during the year. The Illinois State Employment Service reported also that many women workers left the labor market.

In contrast with other recent years, the list of occupations in which there were more jobs than applicants, dwindled to just two as of December 1, 1954. These were map draftsmen, and nurses. However, there were many job opportunities for stenographers and maids.

Labor turnover declined steadily during the first eight months of

(Continued on page 252)

A Simple (and revealing) Freight Story



The map indicates the Rock Island "Field of operations." Rocket Freights do most of the hauling. To move freight into and out of this rich territory insist on Rock Island service. It should save you time-it might save you embarrassment-it could save you money.

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Fewer, shorter strikes highlight labor picture

NE of the brightest chapters in Chicago's excellent record in labor relations was written in 1954. There were fewer strikes than in other recent years, the number of workers involved in controversies was smaller in relation to the total employed in the establishments where the controversies occurred, and settlements were reached quickly in nearly all cases.

There was virtually no violence, and, in the words of a police department labor detail officer, "it was a very good year."

Different Picture

Statistics for 1954, taken by themselves, would give a different impression because of the method of recording the strike of 1,100 truck drivers against 150 members of the Lumber Trade Association of Cook County. Each of the lumber yards was counted as having a strike, so that the number of strikes listed for 1954 was 254, against 232 the year before, 172 in 1952, and 164 in 1951. With the lumber drivers' strike counted as one, the 1954 figure reduces to only 85.

Many controversies between labor and management did not result in strikes. Settlements were reached more readily than in other recent years. The moderate degree of unemployment that prevailed most of the year encouraged union leaders and workers to reach settlements rather than stage a walk-out that might mean complete idleness. Where strikes were called, they were generally settled within a short time.

The number of labor disputes considered serious enough to warrant a call by the Chicago Police Department labor detail under Su-Captain George pervising Barnes was 405 in 1954, against 426 in 1953 and 354 in 1952. However, 270 of the disputes, or 91.35 per cent of the total, were settled in one month or less, 22, or 5.43 per cent, were settled within two months, and seven, or 1.73 per cent, were settled in less than three months. Three disputes were still pending at the end of the year, one of which had started in July.

Change in Trend

Manufacturing firms ordinarily account for the largest percentage of management-labor controversies that are brought to the attention of the police department. Last year, however, because of the simultaneous strikes against lumber yards, retail and wholesale outlets were

LENGTH OF LABOR DISPUTES

Months	1 9	5 4	1 9	5 3	1 9	9 5 2
(or less) · Nu	mber	Percentage	Number	Percentage	Number	Percentage
1	370	91.35	385	90.38	266	75.14
2	22	5.43	14	3.29	61	17.47
3	7	1.73	17	3.99	13	. 3.72
4.	0 /		1	.23	9	2.54
5.	1	.25	1	.23	2	.56
6	1	.25	0		0	_
7	1	.25	0		1	.28
8.	0	h	0	-	0	_
9	0	stimes.	0		. 0	_
10.	0	_	0	_	0	_
Pending Dec. 31	3	.74	8	1.88	2	.29
	405	100.00	426	100.00	354	100.00

NUMBER OF EMPLOYES INVOLVED IN STRIKES

1954

	Total No.	Total No.
	Employes	Employed
Month	On Strike	By Companies
January	10,035	35,890
February	6,125	23,479
March	6,077	127.089
April	2,731	23,930
May	1,073	19,344
June	997	14,817
July	9,180	22,605
August	3,223	18.878
September	3,329	34,211
October	8,098	19.688
November	3,810	35,694
December	2,072	12,835
Total	56,750	388,460

NUMBER OF STRIKES STARTED

	1954	1953	1952
January	. 4	7	14
February	_ 5	10	15
March	5	18	7
April	5	8	18
May	6	- 29	21
June		73	19
July	_ 30	22	9
August	_ 2	14	17
September	_154	17	16
October		20	13
November		6	4
December	4	8	19
Total	234	232	172

credited with 201 of the 405 controversies, against 131 for manufacturing firms, five for unions, five for utilities, and 63 for miscellaneous other types of business.

The labor detail, or Barnes squad, made 8,998 visits to the scene of labor disputes in 1954, as compared with 16,391 in 1953. In the vast majority of cases, only one, two or three calls were necessary. In one instance, however, 200 visits were made by the police to prevent violence. Only 61 arrests were made, against 74 in 1953 and 306 in 1952.

January and July were the peak strike months in terms of numbers away from their jobs. The January total was 10,035, and that for July was 9,180. The total number of workers that went on strike during 1954 was 56,750, and represented about 15 per cent of the 388,460 total payroll of the employing companies involved. In 1953 the number of strikers was 102,695 out of 530,774 employed in the affected establishments, or slightly more than 19 per cent.



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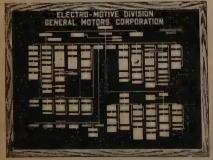
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Occupancy of downtown office space remains high

HE nerve center of Chicago business - the downtown area, or more specifically, the city's office buildings - quickened in 1954 with a further revival of new construction and a broadening of

improvement programs. Competition sharpened last year - competition of the downtown buildings among themselves, and with outlying buildings, the suburbs, and new buildings either finished, under construction, or planned.

There was increased activity in the movement of tenants, but occupancy overall remained at a high level. This was especially true of the finest buildings in the best locations. The Building Managers' Association of Chicago, whose membership covers nearly all of Chicago's downtown office buildings, reported occupancy was 96.60 per cent on October 1, 1954, as compared with 97.21 on October 1, 1953, 97.15 in 1952, and 96.88 in 1951.

La Salle Street

On La Salle street, where the concentration of top grade office buildings is the greatest, occupancy on October 1 was 98.6 per cent, a shade higher than in any of the preceding three years. The lowest occupancy was on State street, primarily a merchandising street. The rate there was 91.92 per cent against 93.77 the year before, 93.39 in 1952, and 94.36 in 1951.

The most evident form of competition for tenants was the modernization and improvement programs undertaken by many buildings. These programs covered things as remodeled entrances and lobbies, automatic elevators, conversion to alternating current, and, in particular, the installation of air conditioning. By providing mod-ern conveniences and service, the older buildings expected to remove

some of the incentive that tenants might have to move to the suburbs or to other outlying areas. These improvements are also calculated to discourage excessive construction of new office buildings.

New Building

One sizable new office building was completed in 1954. It was the 10-story Sinclair Oil Building at the northeast corner of Wacker Drive and Randolph, erected by the Galbreath interests of Ohio. This was overshadowed, of course, by the "topping out" ceremony for the 41story Prudential Building, marking the first time in more than 20 years that the American flag has flown from a girder to signalize the setting of steel for the top floor of a Chicago skyscraper.

Inland Steel Company nounced plans to build a 17-story office building at the northeast corner of Monroe and Dearborn streets, and the Harris Trust and Savings Bank announced that it wanted to build a 20-story building at 114 S. Clark street, connecting with the bank's building facing Monroe street. The Harris proposal encountered zoning problems that had not been solved at the end of the year.

Memories of the long years of excessive vacancies during the 1930's as a consequence of the depression and the overbuilding of new office structures during the preceding decade, are still fresh in Chicago. There is no apprehension, however, that this overbuilding will be repeated soon, because high construction costs necessitate rentals well above the levels now prevailing. Large buildings under construction. or proposed, will in every case be occupied to a considerable extent by the owning corporation, or, as in the case of the Sinclair Building,

(Continued on page 254)



U. S. Steel photo

Plant investments rise sharply in '54

EW capital investments in plant facilities other than equipment climbed sharply in the Chicago metropolitan area during 1954 to one of the largest peacetime totals on record.

Additions to present plants, the construction of entirely new plants, acquisitions of existing plants, and the purchase of land for future industrial uses, added up to a total of 275 projects representing an investment of \$231,683,000. In 1953 the number of projects was larger at 334, but the value represented was much smaller at \$141,902,000.

Approximately 10 per cent of the total dollar value of the 1954 projects was attributable to 22 companies which were new to the Chicago area. That is, the companies erecting or acquiring them did not have other manufacturing facilities here.

Of the 275 projects, 98 were new plants in new locations, although most of them represented relocations or branch operations of firms already established in the Chicago area. The 98 new plants were valued at \$82,701,000, against 1953's \$66,250,000 for 109 plants.

Expansions of existing plants totaled 108, with a dollar value of \$129,224,000, as compared with 128 and \$63,509,000 in 1953. Acquisitions of existing buildings for industrial use involved 64 properties and \$18,834,000, against 89 and \$11,291,000 in 1953.

Land Purchases Increase

There were five purchases of land for future industrial use, as compared with eight the year before, but the dollar value in 1954 was \$924,000 as against \$862,000.

Major new plant construction projects included the Glidden Company's start on a large grain terminal on deep water at 117th Street and the Calumet River; Shure Brothers' start on the construction of an 80,000 square foot plant in Evanston, Dormeyer Corporation's new plant at Fullerton and the north branch of the Chi-

cago river, and Signode Steel Strapping Company's new plant on Lake Avenue and Pfingsten Road in Northfield township.

Among the large expansions launched last year were A. B. Dick Company's 80,000 square foot building to be devoted to research; Inland Steel's addition of a wide flange beam mill and other improvements; refinery expansions by Sinclair Refining Company and Standard Oil Company (Ind.); and a 72,000 square foot enlargement by Joanna Western Mills Company.

Acquisitions of existing buildings included Estee Bedding Company's purchase of a plant at 2414 W. 21st Street; Accurate Perforating Company's purchase of a 200,000 square foot building at 3634 S. Kedzie Avenue; and the purchase of a 380,000 square foot plant at 6801 W. 65th Street in the Clearing Industrial District by Visking Corporation.

White Cap Company was one of the purchasers of vacant land, ac-

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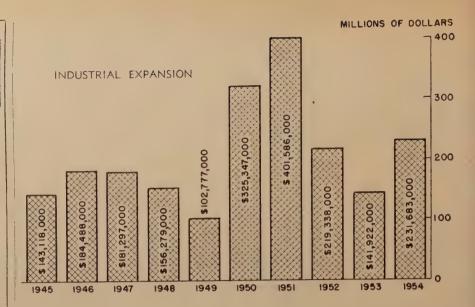
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quiring property at Natchez and Cortland streets. Another was Motorola, Inc., which bought additional land in Franklin Park.

There has been no flight of industry to the suburbs from Chicago. While it has been necessary for large manufacturers to go outside the city in order to build plants requiring extensive land areas, smaller plants have shown a decided preference for a city location. This was true in 1954 just as it was in 1953 and 1952.

Site Locations

Of the industrial construction projects last year, 114 were inside the city limits and 92 were outside the city. In 1953 there were 120 projects inside the city and 117 outside. In 1952 the total was 127 inside, 121 outside.

When it comes to floor area involved in these new construction projects, the relationship is reversed. In 1954, for example, 4,077,000 square feet of floor area, or 44 per cent of the total, was constructed inside the city and 5,262,000, or 56 per cent, in the metropolitan area outside the city. This compared with an identical 1953 figure of 4,077,000 square feet inside the city and 6,490,000 square feet outside the city limits. In 1953 it was 39 per cent inside the city and 61 per cent outside.

Dollar value of new construction was even more heavily concentrated in the suburban area than was the square footage of newly constructed plants. This was true be-

cause of several large steel mill, refinery and chemical plant construction projects outside the city which involved large sums for furnaces, cracking units, etc., which did not create floor area as such. In 1954, \$73,037,000 was invested in construction projects inside the city and \$139,088,000 was invested outside the city for a total. including additions to existing plants, amounting to \$212,125,000. Thirty-four per cent of the new construction expenditures in 1954 were inside and 66 per cent outside the city limits. In 1953, expenditures amounted to \$40,319,-000, or 31 per cent, inside and \$89,-440,000, or 69 per cent, outside the city limits, for a total of \$129,759,-000.

Three Major Categories

Broadly speaking, there were three major categories of manufacturing into which most of the industrial plant investment projects of 1954 may be placed. Largest of the three was the metal trades, including primary and fabricated metals; machinery, both electrical and non-electrical; transportation equipment; and instruments. One hundred and fifty of the year's 275 projects were those of producers of metal products, and the dollar volume amounted to more than \$99,-000,000, or 43 per cent of the total expenditures for manufacturing plant development in 1954. The second largest category was chemicals, petroleum and coal products, in which there were 32 projects inTry this Adding Machine Comparison Test...It will Prove

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INDUSTRIAL EXPANSION IN THE CHICAGO INDUSTRIAL AREA, 1954-1953

	Newly Constructed Plants		Other Industrial Investment		Value of New Plants and Other Industrial Invest. (000 omitted)	
	1954	1953	1954	1953	1954	1953
January	6	4 8 8	18 21 14	18 9 14	\$ 19,888 30,852 14,678	\$ 17.907 20,441 6,612
First Quarter	31	20	53	41	\$ 65,418	\$ 44,960
April	8	7 11 14	13 11 17	19 9 22	\$ 18,813 14,384 34,649	\$ 7,642 10,567 11,028
Second Quarter	24	32	41	50	\$ 67,846	\$ 29,237
July	5	10 8 6	13 12 21	19 20 31	\$ 16,453 13,635 19,729	\$ 12,348 8,088 9,342
Third Quarter	19	24	46	75	\$ 49,817	\$ 29,778
October	6 ·	15 10 8	10 12 14	23 22 14	\$ 18,209 13,461 16,932	\$ 11,720 10,185 16,022
Fourth Quarter	24	33	36	59	\$ 48,602	\$ 37,927
Year Totals	98	109	166	225	\$231,683	· \$141,902

volving more than \$83,000,000. The third largest category, food products, had an expenditure of \$30,000,000 for 27 projects.

All major industries in Chicago had some expansion in 1954, with petroleum refineries and coal tar products in the lead dollarwise, and with fabricated metals and machinery leading in the number of plant projects.

Largest Dollar Volume

The petroleum and coal products industry, which ranked fifth in the Chicago area in 1954 in the dollar volume of production with an estimated \$1,460,000,000, led the area in the total dollar volume of its plant expansion. Although there were only 12 projects, the value was \$74,061,000. Sinclair Refining Company made some large additions to its catalytic cracking and reforming units, while Standard Oil of Indiana made a major expansion of its Whiting refinery with the addition of a crude distillation unit and auxiliary equipment. Jointly, the two companies started construction of a large ammonia plant in Hammond, to be supplied with hydrogen from the two refineries. Universal Oil Products began building a research laboratory at its plant in DesPlaines; the Pure Oil Company acquired the properties of Globe Oil and Refining Company of Lockport; Prime Oil Refining Company began building a new refinery of 15,000 barrels daily capacity in Calumet City; Clark Oil Refining Company in Blue Island made a large addition to its plant; Allby Asphalt and Refining Company established a plant in Hammond for asphalt production. A total of 670,000 square feet of additional floor area was built in expansions of petroleum and coal products plants in the Chicago area.

Primary metal industries, which include steel mills, foundries and forge shop operations, were second in the dollar volume of expansion with a total of \$42,725,000. Companies in this industry were responsible for the production of more than 17,500,000 tons of steel in 1954, in which Chicago area leads the nation. The estimated value of the products of primary metals industries in the area in 1954 was \$2.3 billion, making it the largest major industrial group in terms of output. Steel mill expansion does not create large additional building floor area, but the expenditures are great for such construction items as furnaces, rolling mills, etc. Total new construction in this industry amounted to 1,347,000 square feet of floor area.

Among the large projects in-

1954 INDUSTRIAL CONSTRUCTION

Number of Construction Projects

	City	Suburbs	Total
Factory	98	85	183
Warehouse	16	8	24
Total	114	93	207

Square Footage Involved (000 omitted)

Factory Warehouse	3,131 946	4,423 839	Total 7,554 1,685
Total	4,077	5,262	9,339

Dollar Value of Projects (000 omitted)

City	Suburbs	Total
Factory\$51,702	\$130,878	\$182,580
Warehouse 21,335	8,210	29,545
Total\$73,037	\$139,088	\$212.125

cluded in primary metals was an expansion of a seamless tube mill at Republic Steel Corporation; some large-scale plant additions by Inland Steel Company in East Chicago; the installation of a tapered skin mill by Reynolds Metals Company in McCook; acquisition of a 53,000 square foot plant for Revere Copper and Brass Company at Lockport; and a 66,000 square foot addition of a new strip mill at Revere's rolling facilities at 2200 North Natchez Avenue.

Food Manufacturers

The food manufacturing industry led in the amount of square footage in plants constructed during the year with 1,692,000. Total expenditures of \$29,690,000, involving 27 projects, amounted to 13 per cent of the total of all plant investment projects. Important among the 27 projects were the Salerno-Megowen Biscuit Company's new bakery at Howard Street and Caldwell Avenue in Niles, which will contain 125,000 square feet of floor area; an addition to National Biscuit Company's huge bakery on South Kedzie Avenue for the production of pretzels; Jay's Potato Chip Company's building at 99th Street and Cottage Grove avenue, with 100,-000 square feet of floor area; Hi-Life Packing Company's plant for dog food, to have 35,000 square feet of floor area; the Glidden Company's new grain terminal to cost approximately \$10,000,000;

(Continued on page 187)

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Home Building Sets

Another Record High

THE brightest spot in the 1954 business picture in the Chicago area was new home construction. Not only did construction hit a new high, but it gained such momentum that peak levels were retained in the closing months of the year when normally there is a seasonal decline. New home building in the final six months topped the total for the first half.

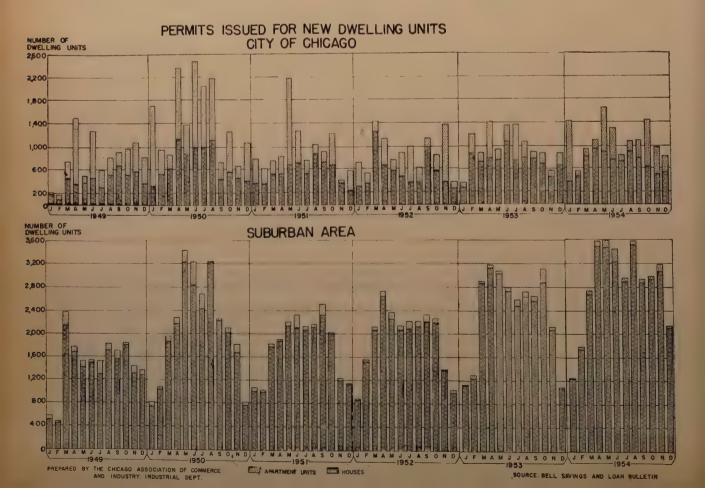
Used houses were in excellent demand too. Although offerings were exceptionally large, prices softened only moderately and sales were effected more readily than in 1953. Thus, real estate dealers as well as building contractors had a big business year.

Bell Savings and Loan Association, whose monthly and annual surveys of new building activity are the authoritative source of information, reported that permits for the construction of new homes and apartments soared to a record 47,179 units with an estimated value of \$577,311,736, as compared with 40,582 and \$478,498,998 in 1953. These statistics cover the City of Chicago, 101 suburban towns including Gary and several others in Indiana, and unincorporated areas in five Illinois

counties - Cook, DuPage, Kane, Lake and Will.

The widely differing conditions prevailing in the City of Chicago as compared with the suburbs and unincorporated areas with respect to available land for house building are reflected in the year's statistics. Chicago has relatively little desirable land left for building single family, one story dwellings, or if desirable land is available it is so expensive that few families could afford it. An apartment building, however, is economically feasible on expensive land and at the same time provides for the concentrated housing typical of big cities. Thus, in Chicago last year there was a small decline in the number of new houses built, to 8,201 from 8,682 in 1953, but new apartment projects increased to 4,819 family units from 3,165 the year before. The 1954 apartment unit figure was higher than in any of the preceding three years.

The indicated value of the houses for which permits were taken out in Chicago last year was \$87,659,866, against \$92,285,700 the year before, while the cost figure for apartments was \$41,636,450, a large gain over the \$28,146,900 for 1953.



In the suburban towns, individual houses far outdistanced new apartment units. Permits issued in the 101 towns totaled 25,009, or more than three times the total for Chicago, as compared with 20,798 in 1953. This was a gain of 4,301 units, or more than 20 per cent. Apartment building projects remained virtually at the same level as in the preceding two years. Permits were issued for 926 units. against 925 in 1953 and 922 in 1952. The value of the 1954 home permits was \$338,600,672, against \$267,673,344 for the preceding year; the apartment permits represented an estimated cost of \$8,220,-473 against \$8,261,954.

Unincorporated Areas

Unincorporated areas in the five Illinois counties in the Chicago area continued to produce new housing at a rapid rate. Permits were issued for 8,130 homes, a new record and a gain of 1,124 homes, or 16 per cent, over 1953's 7,006.

Gary, Ind., continued to lead all other suburban towns in number of permits despite a decline to 1,730 from 1,833 in 1953, but the steel center slipped to third place in indicated value. Skokie, for the third successive year, led in the value column, followed by Park Ridge, Gary, Mount Prospect, Arlington Heights and Morton Grove. Thus, five of the six leaders in value were north suburbs. Skokie was second in 1954 in the total number of permits, with 1,544 as compared with 1,231 the year before.

The average cost of new houses continued the steady rise that began with 1944. For the entire Chicago region the average was \$12,730 in 1954, against \$12,115 in 1953 and only \$4,060 in 1943.

The cost figures varied widely for Chicago, the suburban towns and the unincorporated areas. Chicago's average of \$10,689 was well below the \$13,491 average for suburban towns, and there were wide differences among the counties. The average for unincorporated areas of DuPage County was \$14,361, while at the other extreme was Will County with \$7,476.

Indicative of the active market for real estate last year, the number of real estate transfers recorded in Cook County increased to 76,355 with a stated consideration of

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73 W. Monroe Street, Chicago 3 CEntral 6-3525 \$62,812,206, from 70,348 and \$56,480,356 for 1953. Transfers of property located within the City of Chicago totaled 39,172, and the stated consideration was \$43,151,096, as compared with 38,639 transactions and a consideration of \$39,497,204 the year before.

Houses Sold Well

Although the number of houses placed on the market was extremely high, they were moved more readily than offerings in either of the preceding two years, according to Real Estate Research Corporation. A comparison of newspaper advertisements of homes for sale with the actual number of houses sold showed that the average number of lines per sale dropped to 37.3 in 1954 from 37.6 in 1953 and 39 in 1952, the research organization reported. Prices for used houses were reported only slightly under 1953 levels, with maximum declines about five per cent.

Enactment of the Housing Act

of 1954 by Congress has led to highly optimistic forecasts of building activity in the current year. The new legislation reduces the down payment and extends the term of repayments for home loans eligible for FHA mortgage guarantees. It also provides for federal assistance to cities in rebuilding and rehabilitating areas designated as "urban renewal" zones.

Chicago was the first large city to develop a plan for the prevention or correction of residential area deterioration and win approval under the new Act. In fact, the Chicago plan, worked out by the city's Office of Housing and Redevelopment Coordinator, is regarded as likely to become a model for other cities to follow.

A combination of FHA loan insurance for used housing, together with construction of new public housing, will be another Chicago "first" as the Chicago Housing Authority proceeds with its Rockwell neighborhood project. Here, in an area bounded by Western, Rock-

well, Van Buren and Monroe, the CHA will construct 840 new units and stimulate the rehabilitation, through private financing, of 135 existing houses.

CHA completed 2,500 units in 1954 and started 1,800 more that are nearing completion, thus accomplishing almost half of its 10,500 unit program for low-rent housing started under the 1949 Federal Housing Act. Starts will be made on all but a few hundred units of the remaining half of this program in 1955. Chicago also has moved ahead to obtain its share of additional public housing available under the 1954 Housing Act, with a request for 3,800 units.

Agencies Joined

During 1954 the Chicago Dwellings Association was brought under the Chicago Housing Authority, and the latter is expected to continue the CDA's program of exploring the possibilities of lower-middle income housing, both rental and sale units, through a combination of public and private financing.

Private builders and realtors welcomed the 1954 revisions in FHA mortgage insurance regulations. John Downs, executive vice president of the Chicago Metropolitan Home Builders Association, asserted that the stimulating effect of the liberalized terms definitely was felt in new home starts in the last quarter of the year and will be seen even more strongly in 1955. Maximum limits for insured mortgages have been raised to \$20,000 for one- or two-family homes, \$27,500 for three-family structures. and \$35,000 for four-family buildings. Maximum maturity dates have been raised to thirty years, and down payments lowered through an increase in the percentage of appraised value on which FHA will grant insurance (up to 95 per cent of the first \$9,000, 75 per cent of the balance).

Downs points to the rising market for higher priced homes (those between \$22,000 and \$32,000) and the continued firm market in homes at \$17,000 to \$20,000 and emphasizes that the new FHA terms benefit buyers in both categories. The Home Builders Association expects 1955 to be another record-breaker in housing construction.



Banks' Earnings

Up; Loans Gain



Chicago's Center of Finance, La Salle Street

HE record of Chicago's banks in 1954 provides a remarkable measurement of the unusual stability that marked the nation's economy, a stability that some economists believe has replaced the violent swings of the business cycle.

Some sectors of business enjoyed record prosperity in 1954 – building, for example – while others were little changed from the year before, and some were down sub-

stantially. Overall, with the favorable factors virtually offsetting the unfavorable, business activity as a whole was only moderately under the 1953 peak. Since banks serve all industry and business, their operations last year were in close correlation to the general level of business.

During the first half of the year, business loans declined substantially, partially because of usual the last half of the year came later than usual, but when it did arrive it showed more than customary vigor. The net result as measured by total loans and discounts of all banks in Chicago, was a further small net increase. The December 31, 1954, total of \$3,441,363,000 for loans and discounts of 73 national and state banks was up \$69,464,000, or 2.1 per cent for the year, and compared with the June 30, 1954, total of \$3,198,521,000.

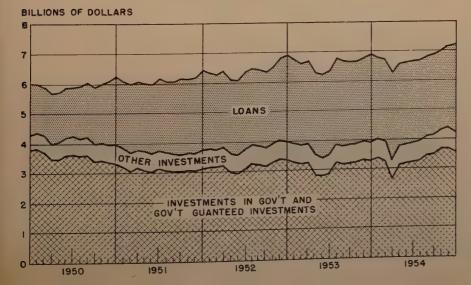
seasonal factors. The recovery in

A more accurate picture of what happened during the year can be obtained from the more detailed data submitted to the Federal Reserve by 21 weekly reporting member banks, including all the big downtown banks. Actually, the major loop banks are so large that the data for smaller institutions have only a very moderate influence on the city's overall banking statistics. Moreover, the biggest banks lend to business borrowers in areas far beyond the confines of Chicago, and therefore the banking statistics cannot be interpreted strictly in terms of local conditions.

Aggregate loans of the 21 weekly reporting banks totaled \$3,009,000,000 as of December 29, 1954, an

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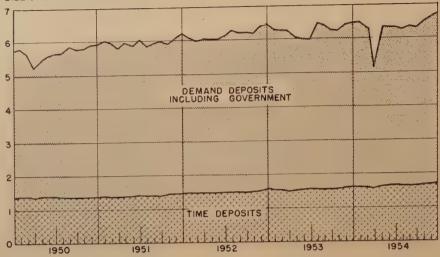
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CHICAGO RESERVE MEMBER BANKS' DEPOSITS

Weekly Reporting Member Banks

BILLIONS OF DOLLARS



increase of \$25,000,000 for the year. However, commercial, industrial and agricultural loans were down \$136,000,000 to \$2,058,000,000, while there were gains of \$23,000,000 in real estate loans, \$17,000,000 in loans on securities other than U. S. Government obligations, and \$15,000,000 in "other loans."

Throughout almost the entire year, the major depressing factor on total business loans of the Chicago banks were the metals and metal products companies, which were busily engaged in reducing inventories. Companies in this classification lowered their bank indebtedness sharply in the first two months of the year, went to the banks for large sums in order to meet income tax obligations in March, and then continued to reduce their borrowings until the last quarter of the year when there was a leveling off.

Cut Loans From Banks

Sales finance companies cut their bank borrowings \$75,000,000 during the first six months of 1954, and took advantage of lower interest rates in the commercial paper market.

Loans in other major categories were steadier, and showed seasonal gains in the second half of the year. Real estate loans showed a continuous rise.

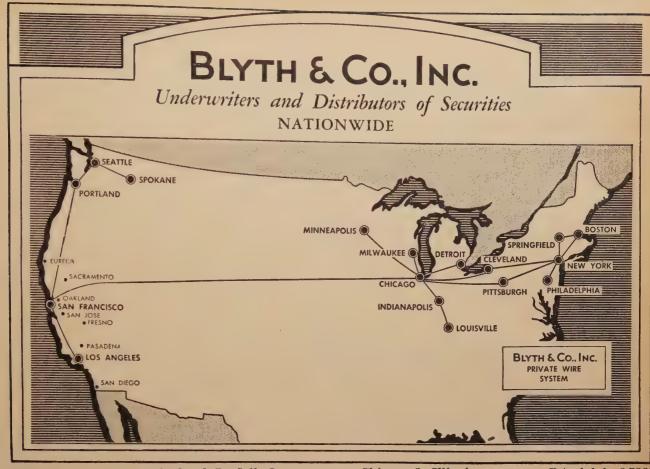
While the big commercial banks are comparatively inactive in lending on residential mortgages, they participate in the home building activity through loans to builders and suppliers. The banks also have an active part in intermediate financing of new factories, stores and shopping centers. Last year, too, they were extremely active in municipal financing.

Debits to demand deposits of Chicago banks exceeded the 1953 total by a small margin. The gain was especially pronounced in the final two months of the year. The turnover of deposits generally is an accurate measurement of the level of business activity.

Continue Policy

The Federal Reserve System pursued its policy of "active ease" in credit until almost the end of the year, and took steps to encourage banks to make funds available to business borrowers. The twelve central banks of the Federal Reserve System have three major means for affecting the supply of credit. One is the rediscount rate, which is the interest rate they charge a member bank when it asks for a temporary loan; another is the reserve required to be held against deposits of member banks; the third is open market operations in government bonds - the central banks can add to banks' reserves, and hence their lending power, by buying government bonds, or they can reduce banks' reserve funds by selling.

Last year the "Fed" used all three methods to promote "active ease," and caused considerable comment



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CHICAGO BANK STATISTICS

(000 omitted)

Loans and Discounts	Total Deposits	Cash Resources	Savings Deposits	U.S. Gov't Securities
1954 \$3,441,362	\$10,243,511	\$2,435,635	\$2,201,117	\$4,284,483
1953 3,371,898	10,020,089	2,604,313	2,107,778	3,966,775
1952 3,275,154	9,924,373	2,519,950	1,997,505	4,022,051
1951 2.934,963	9,458,942	2,681,819	1,867,542	3,748,234
1950 2,498,065	9,038,247	2,487,384	1,778,842	3,917,222
1949 1,944,756	8,617,362	2,263,468	1,755,152	1,353,420
1948 2,080,543	8,040,294	2,352,243	1,697,090	3,619,428
1947 2,062,473	8,092,443	2,144,955	1,614,992	3,878,297
1946 1,721,131	7,457,141	1,928,423	1,470,306	3,842,892
1945 1,507,900	8,597,676	1,863,589	1,270,969	5,196,749
1944	7,688,678	1,702,045	991,689	4,650,164
1943 1,132,624	6,419,297	1,545,359	776,315	3,724,577

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by reducing the rediscount twice. On February 4 the rate was dropped to 13/4 per cent from 2 per cent. This was the first reduction since August 27, 1937, when the rate was cut to 1 per cent, although there had been four boosts between early 1948, and early 1953. The Federal Reserve Bank of Chicago initiated a further cut in the rediscount rate to 11/2 per cent on April 14. Inasmuch as money rates were already low and funds were in ample supply, the two reductions in the rediscount rate emphasized the determination of the Fed to encourage more lending and to bring down interest rates to that end. Chicago banks cut their interest charge on prime commercial loans the following month. The direct effect of the rediscount rate cut on commercial banks was small because they borrowed very little in 1954 from the central bank.

Reduce Reserves

In June and July the Federal Reserve System added billions to the lending power of member banks by reducing reserve requirements. Reserves required against time deposits were reduced to five per cent from six. Reserves required against demand deposits were cut to 21 per cent from 22 on June 24 for those banks in New York City and Chicago that are classed as Central Reserve City banks. On July 29 the rate for these banks was cut to 20 per cent, and for reserve city banks it was reduce to 18 per cent from 19. The rate for "country" banks was reduced to 12 per cent from 13 on August 1.

The reduction in the required reserves freed funds for loans to business or for purchases of government bonds, either of which would help bank earnings in the second half of the year. Many of the member banks put the money into government securities.

Chicago banks reported improved earnings in 1954 despite the dip in commercial, industrial and agricultural loans. In the case of the big banks, earnings were bolstered by profits on sales of government securities.

Opportunities for profits on the government security holdings arose because of the slack demand for business loans and the decline in

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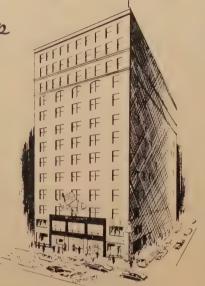
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BEVERLY HILLS NEWPORT BEACH HARTFORD DALLAS HOUSTON SAN ANTONIO LA CROSSE BUFFALO MONTREAL BASLE (Switzerland) interest rates. As interest rates dropped, prices of outstanding government securities increased. The yield on new treasury bills dropped from an average of 1.18 per cent in January to 0.64 per cent by June.

Publication Report

The Federal Reserve Bank of Chicago, in its publication Business Conditions, September issue, reported: "Total loans little changed, net profits up 50 per cent—these two seemingly conflicting results stand out in the Seventh District banking picture at midyear. They reflect, respectively, the mixed trend of general business and the easing credit conditions and rising securities prices which have accompanied it."

After noting that operating earnings of Midwest member banks had shown moderate improvement in the first six months of 1954, the reserve bank continued: "In the first six months of 1954, however, the big factor in Midwest bank profit trends was a turnaround in the 'below the line,' nonoperating accounts. In place of moderate net losses and charge-offs, banks obtained net recoveries on assets equal to more than one-fifth of their net operating earnings. These recoveries were largely premiums on securities sold, obtainable because of the substantial drop in market interest rates. As a result, even with much higher estimates of income tax liability, net profits after taxes were reported averaging about 50 per cent above first-half 1953, in both larger and smaller Midwest centers."

The securities mentioned are, of course, government obligations. And the banks reaping these pre-

CHICAGO BANK DEBITS

(000 omitted)

	1954	1953
January\$	11,127,395	\$ 11,467,902
February	10,506,056	10,008,134
March	13,854,016	13,165,564
April	11,176,844	11,567,449
May	11,565,255	11,407,200
June	12,072,234	12,097,194
July	11,445,689	11,643,223
August	11,261,719	10,791,275
September	11,222,075	11,484,972
October	11,150,469	11,670,476
November	11,614,321	10,937,563
December	13,654,520	12,643,627

\$140,650,593 \$138,884,579

miums are almost exclusively the very large banks whose vast holdings justify the maintenance of expert staffs that keep abreast of every market development.

A noteworthy feature of the year 1954 in Chicago banking was the continued growth of savings deposits. At the end of 1954 Chicago banks held \$2,201,117,000 in these deposits, an increase of \$93,339,000, or 4.5 per cent, over the 1953 yearend figure. At mid-year the total was \$2,158,626,000.

Holdings of U. S. Government securities reached \$4,284,483,000 at the end of 1954, a rise of \$317,708,000, or 6.7 per cent, for the period. Cash resources were down \$168,678,000, or 6.5 per cent, to \$2,435,635,000.

The First National Bank of Chicago retained its position as the fifth largest commercial bank in the United States as of December 31. 1954. Chicago's second largest bank, the Continental-Illinois National Bank and Trust Company, whose deposits declined during the year. slipped from fifth to eighth place. The rankings, established in a study by the publication, American Banker, placed the Northern Trust Company in 30th place, the Harris Trust and Savings Bank 32nd, and the City National Bank and Trust Company 59th.

"Active Ease" Firms

Bankers detected a moderate modification of the Federal Reserve System's "active ease" credit policy near the end of 1954. In December the Fed's open market committee stayed out of the government bond market. That is, it bought no securities outright, and by this inaction gave a free play to seasonal factors which tended to tighten credit slightly. In the first two weeks of 1955, the committee sold \$391,000,000 of governments. These developments contrasted with purchases of \$325,000,000 of governments in December, 1953, and no outright sales in the first two weeks of 1954. In the week ended January 26, 1955, holdings of Treasury bills dropped \$228,000,000.

The Fed raised the required margin on stock purchases to 60 per cent on January 4, 1955, from the 50 per cent rate in effect since February 20, 1953.

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Consumer Finance

Volume Unchanged

URING 1954, consumer finance companies operating in Chicago experienced a period of readjustment which began in the preceding year. As a result, outstanding loan volume remained relatively unchanged.

During most of the post-war period, credit was granted throughout the entire consumer field on an assumption of continued full employment. The termination of the Korean War, however, brought the practical elimination of overtime and fear of unemployment in some quarters. This caused consumer-finance companies and other financial institutions to reappraise their operating practices and policies. As a result, the credit worthiness of the debtor and the soundness of the individual transaction were scrutinized somewhat more carefully and credit was granted less liberally by many firms.

The employment uncertainty also caused the consumer to adopt a hesitant attitude toward the use of consumer credit. Thus again, there was evidence that consumer borrowing tends to fall off when business in general is less active, and expand when business is good.

Increase Small

During 1954, total consumer credit outstanding, for the country as a whole, increased less than \$600 million, a smaller increase than in any other year since World War II. Most forms of consumer credit showed relatively little change during the year. Paper representing the time payment purchase of automobiles increased only \$55 million or about one-half of one per cent. Paper representing the time payment purchase of other consumer goods, such as furniture and appliances, declined by \$163 million, or about three per cent. Personal installment cash loans, on the other hand, continued the slow but steady growth in progress since 1945, and increased somewhat more than \$400 million, or about ten per cent.

The consumer credit activities of commercial banks, for the most

part, take the form of paper related to the time-payment purchase of automobiles and other consumer goods, and home repairs and modernization. For the country as a whole, only one-fifth of bank consumer credit consists of personal cash loans. The credit extended by consumer finance companies, on the other hand, consists almost entirely of loans for purposes other than the purchase of durable goods. For the most part also, the personal loans of commercial banks are made to salaried individuals in higher income brackets than those who patronize consumer finance companies. Most customers of consumer finance companies have incomes from \$200 to \$400 a month.

Total Outstanding

At the end of 1954, total consumer credit outstanding amounted to \$29.8 billion. Of this total, \$4.8 billion represented personal installment cash loans. Consumer finance companies accounted for \$1.8 billion, and commercial banks for \$1.7 billion, with the remainder distributed among credit unions, industrial loan companies, and others.

Consumer finance companies in Chicago, as elsewhere, operate under the provisions of the small loan law. The Illinois law follows the pattern of the model or "uniform" small loan law first introduced about 40 years ago by the Russell Sage Foundation. Similar laws, effectively administered to protect borrowers, exist in about twothirds of the states. The Illinois law limits loans to \$500 or less. Interest may be charged on the unpaid principal balance only, for the exact period it is outstanding. The rate is scaled from one per cent a month on balances between \$300 and \$500, to three per cent a month on balances of \$150 or less.

The Illinois law prohibits extra charges of any kind—a characteristic of all effective small loan laws. It specifically prohibits any extra charge for insurance premiums. In some states, specialty insurance companies and lenders have used the tie-in sale of credit life, health and accident insurance with loans as a device to secure a hidden extra profit at expense of the borrower.



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Midwest Stock Exchange Growth Continues

THE completion in 1954 of five full years since the Midwest Stock Exchange opened for business as a unique merger of four regional stock exchanges was marked by additional evidence that the merger was soundly conceived.

The exchange's two branch offices, one in Cleveland and the other in St. Louis, continued to increase their share of the total volume of business done on the exchange; the estimated average price of stocks traded during the year was higher than that for the New York Stock Exchange and nearly three times the figure for the American Stock Exchange; thirteen stock issues were newly listed, including the shares of one large company that chose to list exclusively on the Midwest exchange; additional companies established tax-free stock transfer facilities that strengthen the competitive position of the exchange.

Estimated volume of trading for 1954 was 19,512,000 shares, a new high but only moderately above the 19,019,000 shares traded in

1950, the first full calendar year of operation, when volume was stimulated by the start of the Korean war. The 1954 total was up 30.4 per cent from 1953's 14,959,600 shares. The dollar value of 1954 transactions was \$686,034,000, against \$473,069,532 in 1953, an increase of 45 per cent.

Branch Orders Gain

Orders transmitted through the branch offices represented 13.5 per cent of the total volume in 1954, against 12 per cent in 1953 and 8.9 per cent in 1950. The St. Louis branch continued to make the best showing, and alone accounted for 8.1 per cent of the total exchange volume. These percentages are adjusted to take into account the fact that the orders transmitted through the branches are either buy or sell orders whereas the trading volume reported for the exchange itself is on the basis of completed transactions that represent both a purchase and a sale. The adjustment is made by relating the branch office figures to twice the reported exchange volume.

The branches were opened when the merger became effective December I, 1949. The regional exchanges merged were the Chicago Stock Exchange, the St. Louis Stock Exchange, the Cleveland Stock Exchange, and the Minneapolis-St. Paul Stock Exchange. The new exchange was located in Chicago, and this would have involved additional expense in transmitting orders for those member firms that did not have direct wires to Chicago. The branches simply transmit buy and sell orders to the exchange floor for such member firms, and their volume figures donot represent the total volume of business received from all member firms in St. Louis and Cleveland.

One of the thirteen issues listed last year was the entire 6,292,484 shares of common stock of the Northern Illinois Gas Company, a new company formed to take over all gas operations of the Commonwealth Edison Company in northern Illinois outside Chicago. The

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stock is listed only on the Midwest Stock Exchange, a fact that is considered convincing evidence that the exchange, by itself, provides an adequate market for the securities of a large corporation.

The New York Central Railroad, whose stock was previously traded on the Midwest exchange on an unlisted basis, listed the stock fully in 1954 and appointed a transfer agent and a registrar in Chicago. Other new listings were the new preferred stock of Public Service of Indiana, Inc., Armour & Co. ten-vear warrants, and the stocks of Scurry-Rainbow Oil Limited, Marquette Cement Manufacturing Company, Olin Mathieson Chemical Corp., C & C Super Corporation, Oklahoma Natural Gas Company. Southwestern Public Service Company, Lytton's, Henry C. Lytton & Company; Drewrys Limited U. S. A., Inc., and General Contract Corporation. The Lytton stock, formerly traded in the over-thecounter market, is listed solely on the Midwest Exchange. The other new issues are listed also on the New York Stock Exchange with the exception of Scurry-Rainbow and C & C Super Corporation, both listed on the American Stock Exchange. Scurry-Rainbow Oil Limited established stock transfer facilities in Cleveland, while Oklahoma Natural Gas and C & C Super arranged for such facilities in Chicago.

Progress On Transfer Agents

The exchange's vigorous drive to obtain tax-free stock transfer facilities for the stocks traded on the exchange has been one of its outstanding successes. Only a few of the important stocks active on the exchange must still be transferred in New York, which involves a delay and subjects the seller to a tax imposed by the State of New York. Such companies as Standard Oil of New Jersey, United States Steel, and General Motors, for example, now maintain stock transfer facilities in Chicago. The Midwest exchange has not disturbed transfer

Average Prices of Shares Traded

		or bilares	rraucu
	Midwest Stock	New York Stock	American Stock
	Exchange	Exchange	Exchange
1950	\$26.94	\$28.58	\$12.89
1951	MID-107-O	31.37	13.36
1952	31.68	34.09	11.42
1953		31.64	10.22
1954	35.11	34.64	11.15

agent relationships of companies listed on predecessor exchanges, so long as they avoided the New York State transfer tax.

In addition to saving the seller a tax that may be sizable, the availability of local transfer facilities enables "specialists" on the exexchange floor to make a better market for the various issues assigned to them, because they have less capital tied up in stocks in the process of being transferred.

A criterion of the Midwest Stock Exchange's listings is the average price of the shares traded. It is estimated that the average for 1954 was \$35.11, against \$34.64 for the New York Stock Exchange and \$11.15 for the American Stock Exchange. The following table shows comparative average price figures for the last five years, based on annual dollar value volume divided by annual share volume:

Most actively traded stock on the exchange in 1954 was Commonwealth Edison, with United States Steel second. Eight of the 20 volume leaders for the year were stocks listed only on the Midwest exchange.

TWENTY MOST ACTIVE STOCKS IN 1954

(Round lots only)

(Round lots only)	
	Shares
Commonwealth Edison	284,800
U. S. Steel	236,700
*Hallicrafters	218,500
Packard	217,700
*Four Wheel Drive	197,450
*Sundstrand Machine	190,900
*Gibson Refrigerator	172,500
Chrysler Corp.	166,000
Armour	162,000
General Motors	160,700
Ashland Oil	159,900
American Radiator	155,700
*Berghoff Brew	155,300
*St. Louis Pub. Serv.	151,400
*Cleveland Cliffs	139,300
Reynolds Tob. "B"	138,200
General Electric	136,900
Int. Harvester	136,300
*Lonergan Mfg.	134,500
Pepsi-Cola	133,800

^{*}Listed only on Midwest Stock Exchange

Odd lot volume is of major importance to the Midwest Stock Exchange, especially with respect to stocks selling at relatively high prices, just as it is to other stock exchanges. Last year's total estimated trade of 19,512,000 shares included more than 5 million shares in odd lots, or less than 100-share units. Among individual issues, odd lot trades included Commonwealth Edison 179,435 shares, U. S. Steel 154,282, General Motors 147,577, Chrysler 117,205, Interna-

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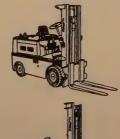
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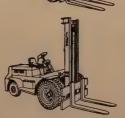
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tional Harvester 102,851, General Electric 93,546, and Reynolds Tobacco "B" 63,174.

The securities of 431 companies were available for trading on the Midwest Stock Exchange at the end of 1954, and the number of individual issues was 502. These 502 issues represented 1,756,926,937 shares with a year-end market value of \$95,115,983,840, against 1,694,121,754 shares and a market value of \$66,719,903,452 at the end of 1953.

Dividends were paid on 445 of the issues during 1954, to a total of \$3,852,749,996, against 455 and \$3,544,288,012 in 1953.

The number of firms holding membership in the exchange remained unchanged in 1954 at 287, but the number of partnerships was reduced by seven to 161 while the number of corporation members increased by seven to 126.

Twenty Memberships Sold

Twenty memberships were sold in 1954 at prices ranging from \$2,500 to \$4,500. The last sale of the year was at the top price. Reuben Thorson, chairman of the board of governors of the exchange, called attention to the fact that about half of the memberships sold during the year went to young men who became active on the floor of the exchange. Exchange officers regarded this as encouraging for continued aggressive progress.

A year of experience with the new communication system between the exchange floor and the order departments of a number of member firms in Chicago has proved the value of the system, exchange officials reported. On December 1, 1953, the exchange began broadcasting attractive bid and offer quotations from a microphone on the trading floor to loudspeakers in the offices of member firms that subscribed to this new service. Many buy or sell orders that would have gone to another exchange were executed on the Midwest exchange after the new service was instituted. In some instances sellers benefited by avoiding the New York stock transfer tax, and in many other instances buyers or sellers benefited through immediate execution of their orders at an attractive price. Thirty-three member firms were subscribers to the special service at the end of 1954.

Canadian Pacific*

MIDWEST STOCK RANGE IN 1954

Vol.

High

Low

Last

Chge.

Total 1954

Div.

		A				
Abbott Laboratories	1.85	46,179	483/4	401/4	471/	. 017
Acme Steel	1.60	49,108	26	$\frac{40\frac{7}{4}}{20\frac{1}{2}}$	$47\frac{1}{2}$ 26	$+ 2\frac{1}{2}$ $+ 5\frac{7}{8}$
Adams Mfg., J. D.	1.00	6.832	30	151/2	30	$+ \frac{37/8}{+141/4}$
Addressograph-Multigraph*	3.00+	1,500	88	88	88	+31
Admiral Corporation		66,303	283/4	181/2	281/4	+ 91/2
Advance Aluminum		18,300	10	$61/_{4}$	75/8	- 5/8
Affiliated Gas Equipment Akron Brass Manufacturing	.50	59,633	147/8	77/8	147/8	+ 71/8
Alleghany Corp.*	.65	13,300 86,006	93/8	41/4	91/4	+ 45/8
Allied Laboratories	1.60	42,350	87 ₈ 37	$\frac{35/8}{253/8}$	81/2	+ 51/4
Allis-Chalmers Mfg.	4.00	102,019	743/8	$45\frac{1}{8}$	$\frac{37}{725/8}$	$+11\frac{1}{4}$ $+28\frac{3}{8}$
American Airlines*		162,430	221/2	111/2	22	+103/8
American Broadcasting*	1.00	15,731	25	191/8	25	+101/2
American Can *	1.55	30.019	$481/_{2}$	363/8	441/4	+ 47/8
American Cyanamid*	2.00	61,357	555/8	431/2	$55\frac{1}{4}$	+ 81/8
American Investment Co. (Ill.)	1.60	18,464	311/4	231/8	30	+ 7
American Machine Foundry American Motors	1.00†	56,414	281/4	217/8	273/8	+ 45/8
American Rad. & Std. Sanitary*	$\frac{.37 \frac{1}{2}}{1.28}$	88,499 214,183	$14\frac{3}{4}$ $24\frac{5}{8}$	93/4	121/8	New 1037
American Tel. & Tel.	9.00	246,724	1781/4	13¾ 156¼	$24\frac{1}{2}$ 175	$+10\frac{3}{4}$ +19
American Tobacco*	4.40	112,508	667/8	551/4	661/4	+ 5
Amurex Oil Development		36,684	14	7	81/2	- 13/4
Anaconda Copper Mining*	3.00	124,607	521/8	293/4	521/8	+231/8
Armco Steel*	3.00	100,339	723/4	335/8	721/2	+39%
Armour & Co. (Illinois)	1.00	185,866	147/8	83/4	147/8	+ 61/8
Arvin IndustriesAshland Oil & Refining	1.60	500 215,617	$265/_{8}$ $141/_{4}$	221/2	261/2	- 31/ ₈
Ashland Oil & Refining, Pfd.	1.50	17,797	261/8	$10\frac{7}{8}$ 23	137/ ₈ 253/ ₄	$+ 2\frac{3}{8} + 3\frac{1}{4}$
Associates Investment	1.80	400	451/4	451/4	451/4	$+13\frac{74}{13}$
Atchison, Topeka & Santa Fe R.R.	7.00	18,240	1321/2	921/2	1311/4	+371/4
Athey Products	.40	29,000	91/8	63/8	81/2	+ 23/8
Atlantic Refining*	2.00	44,404	393/4	281/8	$39\frac{1}{4}$	+111/4
Automatic Washer		31,000	47/8	21/2	27/8	- 11/8
Avco Manufacturing	.10	149,146 2,460	7	45/8	63/4	+ 21/4 New
Armour & Co. Warrants	sphere son see saturb	2,400	71/4	45/8	71/4	NCW
	1	В				
Baldwin-Lima-Hamilton*	.80	60,178	135/8	81/2	131/2	+ 43/4
Basic Refractories	1.00	1,400	101/4	101/4	101/4	+ 1/2
Bastian-Blessing	4.00	10,550	63	461/2	58	+10
Bearings, Inc.	- T. CO	46,600	23/8	13/8	21/8	+ 1/2
Belden Manufacturing	1.60	49,150 27,354	31 ³ / ₄ 101 ¹ / ₂	21 61	27 ⁷ / ₈ 101 ¹ / ₂	$+7\frac{3}{8}$ $+39\frac{3}{8}$
Bendix AviationBenguet Consolidated Mining*	4.00†	88,964	15/8	3/4	13/8	+7/16
Berghoff Brewing		155,300	$6\frac{3}{4}$	3	63/4	+ 33/4
Bethlehem Steel*	5.75	91,295	105	503/8	105	+553/4
Binks Manufacturing	1.45†	8,650	261/2	16	215/8	+ 27/8
Booth Fisheries	1.00	40,400	161/2	111/2	161/2	+ 43/4
Borg Corp., Geo. W	1.50	29,400	271/2	191/8	26	+ 53/4
Borg-Warner (Old)	5.00†	31,019	1147/8	751/2	113½ 38½	+38¾ New
Borg-Warner (New) Brach & Sons, E. J	3.50	1,372 5,650	$\frac{381}{2}$ 60	381/ ₈ 50	60	+ 8
Brad-Foote Gear Works	.10	50,500	21/2	13/4	21/2	+ 3/8
Brown Shoe	3.80	4,423	79	601/4	79	$+17\frac{1}{2}$
Bruce, E. L.	1.00	200	147/8	131/4	147/8	+ 3
Budd Co.	,1.00	36,564	171/4	111/2	171/4	+ 6
Burlington Mills*	.60	55,403	173/8	101/2	17	+ 61/2
Burroughs Corp.	.85	58,108	255/8	$15\frac{7}{8}$ $16\frac{3}{4}$	247/ ₈ 201/ ₂	$+ 9\frac{1}{8} + 3\frac{1}{4}$
Burton Dixie	1.20 .60	9,050 66,979	$20\frac{1}{2}$ $24\frac{3}{4}$	111/2	24	$+ \frac{374}{+121/4}$
Butler Bros., Pfd.	4.50	675	92	84	92	+12
Dutter Dros., 11tt,	2,00					
		C				
				2 - 1	17/	NI ann
C & C Super Corp		34,064 67,098	2½ 32¾	$\frac{1\frac{1}{2}}{21\frac{1}{2}}$	17/ ₈ 323/₈	New +10%

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 - GROUP

Falstaff Brewing

Flour Mills of America

BYRNES-McCAFFREY, Inc.

141 West Jackson Blvd.

Phone WE 9-6330

MIDWEST STOCK RANGE IN 1954						
Total 1954						
	Div.	Vol.	High	Low	Last	Chge.
Carr Consolidated	PRO1200	60,600	11/8	1/4	1/2	— 3/ ₈
Castle, A. M.	1.20	400	153/4	131/2	131/2	- 11/2
Celanese Corp.*	.621/2	51,339	261/2	163/4	26	+ 63/4
Cenco Corp.	.05	7,000	$4\frac{3}{8}$ $2\frac{1}{2}$	$\frac{3}{17/8}$	$\frac{41/_4}{17/_8}$	+ 5/8 - 1/8
Central & Southwest	.10	14,050 51,044	313/4	231/8	31	+ 77/8
Central Illinois Light	2.20	5,675	46	381/2	46	+ 71/8
Central Illinois Public Service	1.20	98,860	26	193/4	25	. + 51/4
Central Illinois Securities Central Ill. Sec., \$1.40 Pfd.	1.40	6,600 50	93/ ₈ 36	$\frac{3\frac{3}{4}}{30\frac{1}{2}}$	$\frac{98}{8}$	$+55/_{8}$ $+13$
Central III. Sec., \$1.50 Pfd.	1.40 6.00	4,150	$\frac{30}{29\frac{1}{2}}$	$\frac{3672}{265/8}$	263/4	- 3/ ₄
Chesapeake & Ohio*	3.00	98,624	46	331/2	46	+127/8
Certain-teed Products*	$1.121/_{2}$	3,540	263/4	155/8	263/4	+141/4
Chicago Corp.	.80	44,242 2,800	271/8	19	$25\frac{1}{2}$ 65	$+6\frac{1}{2}$ + 5
Chicago Corp., Pfd. Chgo. Milw. St. P. & Pac. R.R.	3.00 1.00	39,050	$65\frac{1}{4}$ $17\frac{3}{8}$	$60\frac{1}{4}$ $10\frac{1}{4}$	167/8	$+6\frac{3}{4}$
Chgo. Rock Island & Pacific R.R	5.00	9,961	. 911/4	66	911/4	+283/4
Chgo. South Shore & So. Bend R.R.	.65	64,050	12	8	9	2 1/4
Chicago Towel, Pfd.	7.00	1,259 680	$117\frac{3}{4}$ $127\frac{1}{2}$	102 118¼	$\frac{1131/8}{126}$	$+10\frac{5}{8}$ $+7\frac{1}{2}$
Chrysler Corporation	4.50	283,205	721/4	565/8	711/8	+111/4
Cities Service	5.00	38,406	128	811/2	1233/4	+46
Cleveland-Cliffs	1.20	139,300	293/4	177/8	293/4	+113/4
Cleveland-Cliffs, Pfd Cleveland Electric Illuminating	4.50 2.60	9,050 16,234	873/ ₄ 671/ ₂	725/8	861/8	+137/8
Clevite Corp.	1.15	4,190	233/4	$54\frac{1}{4}$ 20	$67\frac{1}{2}$ $23\frac{3}{4}$	+135/8 + 4
Clinton Foods	1.20	63,926	425/8	241/2	425/8	+133/4
Coleman Co.	2.00	18,450	311/2	231/2	311/2	+ 41/2
Columbia Gas* Commonwealth Edison	.90 1.80‡	171,387 464,235	16½ 48½	12³/ ₄ 37	161/4	+ 35/8
Commonwealth Ed., \$1.32 pfd	.99	11,033	413/8	371/8	$45\frac{3}{4}$ 40	+ 8½ + 3½
Commonwealth Ed., \$1.40 Pfd	1.05	6,678	413/8	375/8	397/8	+ 27/8
Consolidated Vultee	.45	9,179	255/8	211/2	253/8	- 91/2
Consumers PowerContainer Corp. (Old)	2.20 .50†	48,493 773	49½ 59%	387/ ₈ 563/ ₄	$47\frac{1}{4}$ $59\frac{7}{8}$	+ 75/8
Container Corp. (New)	7	10,199	683/4	481/4	$67\frac{7}{8}$	+157/8 New
Continental Motors*	.80	51,097	133/8	77/8	133/8	+ 53/4
Crane Co., 33/4 Pfd.		35,890	401/8	29%	393/8	+101/8
Cudahy Packing	3.75	13 15,560	$\frac{995}{8}$	$\frac{995}{8}$	$\frac{995}{8}$	+ 8 + 21/8
Curtis Lighting	0.70 0.70 0.70	40	6	6	6	+ 278 + 1
Curtiss-Wright*	1.00	122,440	181/2	73/4	171/2	+ 93/4
		**				
		D				
Deere & Co Detroit Cleveland Navigation*		45,083 54,600	343/4	255/8	341/4	+ 91/4
Detroit Edison*	1.60	54,600 34,986	$\frac{16}{34\frac{5}{8}}$	7 ⁷ / ₈ 28 ¹ / ₂	$15\frac{1}{2}$ $34\frac{1}{8}$	$+6\frac{1}{2}$ $+4\frac{3}{8}$
Dodge Manufacturing	1.00	38,500	221/2	103,4	201/2	+ 93/4
Domestic Finance	.20	6,800	7	6	7	+ 11/4
Dow Chemical		128,779 1,325	471/4	331/2	47	+ 83/4
DuMont Laboratories		29,647	$\frac{227/8}{163/8}$	21 91/ ₄	$\frac{227}{8}$ $14\frac{1}{2}$	New + 6
duPont, E. I., de Nemours*		61,671	1667/8	1043/4	1641/4	+571/4
						, ,,,
		E .				
Eastern Airlines Eastman-Kodak*	.50	37,768	393/4	221/4	39	+165/8
Eddy Paper	2.00 12.00	46,974 1,600	72½ 202	$46\frac{7}{8}$	721/4	+261/8
Elder Manufacturing	1.00	72	181/4	1271/ ₄ 173/ ₄	200 17¾	+73 - 11/4
Electric Controller	2.50	8,388	53	341/2	53	+171/2
Elgin National Watch	.60	10,473	163/4	111/2	161/2	+ 43/4
Emerson Radio & Phonograph*	.60	21,042	15	93/4	145/8	+ 45/8
		F.				
Falstaff Brewing	1.00					

25,816

24,250

161/4

91/4

51/2

161/4

+ 37/8

MIDWEST STOCK PANCE IN 1054

MIDWEST :	STOCK	RANG	GE IN	1954		
To	otal 1954					Net
	Div.	Vol.	High	Low	Last	Chge.
Four Wheel Drive						•
Four Wheel Drive	only)	197,450	147/8		113/4	$+ 1\frac{3}{4}$
Fox (Peter) Brewing (New)	omy) .	500	71/2	43/4	61/4	+17/8
() () () () () () () () () ()		300	31/4	31/8	31/4	New
		C.				
		G				
Gamble-Skogmo	.60	35,894	$93/_{4}$	$6\frac{3}{4}$	93/4	+ 3
General American Trans. General Box	2.621/2		$641/_{2}$	$381/_{2}$, ,	$+221/_{8}$
General Candy	.20 1.25	111,400	31/8	21/4	31/8	+ 7/8
General Dynamics*	3.25	3,840 36,378	15 82	12 451/ ₄	141/4	+ 11/4
General Contract Corp.	.90	1,394	181/4	173/4	81 181/4	New New
General Electric (Old)*	2.00+	37,301	1241/4	88	1163/4	+293/8
General Electric (New)*	.80	180,145	481/4	38	461/2	New
General Finance	.65	8,253	141/8	$93/_{4}$	14	$+4\frac{1}{2}$
General Finance, Pfd. A"" General Foods	.50	600	$91/_{2}$	9	91/2	+ 1/4
	2.75 2.50	18,526	781/4		763/4	+163/4
General Mills General Motors	5.00	500 308,277	$73\frac{1}{4}$ $98\frac{1}{2}$	73½ 59	731/ ₄ 98	+13
General Outdoor Advertising		100	$\frac{367_2}{227_8}$	$\frac{39}{227/8}$	227/8	$+38\frac{1}{4}$ $-\frac{7}{8}$
General Package (Old)	2.00	80,950	60	311/4		$+24\frac{5}{8}$
General Package (New)		21,650	341/8	273/8		New
General Public Utilities*	1.70	21,867	345/8	$28\frac{3}{8}$	$343/_{8}$	$+5\frac{3}{4}$
General Telephone (Old)	.60†	39,492	511/2	441/2	495/8	1 7 7
General Telephone (New)	1.20	31.707	37 103/8	323/8	351/2	New + 3
Gillette Co.	3.50	172.500 43,863	$75\frac{1}{4}$	$\frac{43/_{4}}{463/_{8}}$	87/8 715/8	
Glidden Co.*		42,505	421/2	30	413/8	
Goldblatt Bros.		3,900	15	111/2	135/8	+ 15/8
Goodyear Tire & Rubber.		33,772	1073/4	$537/_{8}$	1073/4	+54
Gossard (H. W.)		40,600	203/4	91/2	181/2	+ 87/8
Graham-Paige*		26,688	21/8	11/4	2	+ 7/8
Gray Drug Stores	1.00	13,450 66,400	$18\frac{1}{2}$ $26\frac{1}{2}$	13½ 185⁄8	$16\frac{3}{4}$ $23\frac{1}{2}$, , ,
Great Lakes Oil & Chemical Great Lakes Towing	1.00	55,650	31/4	13/4	27/8	+ 7/8
Great Lakes Towing	1.25	1,054	40	25	40	+141/2
Great Lakes Towing, Pfd,	7.00	. 41	95	90	95	+ 41/2
Greif Bros. Cooperage	.90	31,400	25	16	245/8	+85/8
Greyhound Corp.*	1.00	138,573		, -		+ 1/4
Griesedieck Company	1.00	46,254	185/8	85/ ₈	185/8	$+3\frac{3}{4}$
Gulf Oil .	2.00†	68,883	661/4	46	661/4	+20
	,	r Y				
		H				
Hall (W. F.) Printing	1.75	650	183/4	177/8	183/4	+ 11/2
Hallicrafters	0.40	218,500	61/8	33/4	51/ ₈	
Hammond Organ	2.40	18,100 93,500	30½ 31¾	$\frac{23}{17\frac{3}{4}}$	$\frac{28}{313/4}$	$+3\frac{3}{4}$ $+14$
Harnischfeger	1.60 2.00	44,900	$26\frac{7}{8}$	225/8	$25\frac{1}{2}$	+ 3
Hein Werner	1.00	32,150	113/8	8	93/4	+ 11/2
Heller (Walter E.)	1.45	5,500	251/4	$19\frac{1}{2}$	$25\frac{1}{4}$	+ 5
Hibbard Spencer Bartlett	2.40	11,900	45	37	441/4	+ 61/4
Hupp Corp.	.05	12,597	31/2	21/2	3	+ 3/4
Huttig Sash & Door	2.50	11,950	29 104	$\frac{21\frac{1}{2}}{100}$	27 104	$+ 5\frac{1}{2}$ $+ 4$
Huttig Sash & Door, Pfd	5.00	81	104	100	101	₸ '
		7				
		1				
Indiana & Mich. Elec. 41/8 Pfd	4.121/2	45	102	99	102	Unch
Illinois Brick	1.10	67,600	161/4	95/8	153/4	+ 51/4
Illinois Central RR (Old)	1.25†	7,159	98	80	931/8	+16 ³ / ₄
Illinois Central RR (New)	1.871/2	13,992	633/ ₈ 391/ ₄	$\frac{441}{8}$ 18	$63\frac{3}{8}$ $37\frac{1}{2}$	New +193/4
Indiana Steel Products	1.50 1.10 †	62,650 4,859	39 ¹ /4 45 ⁸ / ₈	403/4	451/8	+ 27/8
Indianapolis Power & Light (Old) Indianapolis Power & Light (New)	.55	3,471	223/4	221/2	231/2	New
Industrial Development		36,050	17	51/2	163/4	+113/8
Inland Steel	3.75	90,512	75	415/8	75	+35
Interlake Steamship	1.25	28,250	31	26	291/4	+ 13/4

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MIDWEST STOCK RANGE IN 1954

MIDWEST S	STOCK	< RANG	GE IN '	1954		
To	tal 1954 Div.	Vol.	High	Low	Last	Net Chge.
Intermedianal Harveston	2.00	239,151	383/8	281/8	377/8	+105/8
International Harvester, Pfd.	7.00	200	1651/2	1651/2	1651/2	+ 51/2
International Minerals & Chem.	1.60	43,424	421/2	283/4	411/8	+121/8
International Nickel*	2.90	19,581	591/4	357/8	58	+23%
International Packers	.60	15,505	171/8	103/4	17	$+6\frac{3}{4}$
International Paper*	3.00+	19,612	883/4	$56\frac{1}{4}$	881/2	+32
International Shoe	2.40	25,041	443/8	381/8	$43\frac{1}{4}$	+ 51/8
International Tel. & Tel.*	1.00	119,244	265/8	137/8	26	+121/4
Interstate Power	.681/2	35,612	137/8	10½	123/4	+ 21/8
Iowa-Illinois Gas & Electric	1.80 1.40	35,579 15,941	$\frac{345}{8}$ $28\frac{1}{4}$	297/ ₈ 25	$30\frac{1}{2}$ 27	$+ \frac{3}{4} + 2\frac{1}{4}$
Iowa Power & Light			A ~ / · 2		7.	1
Johnson, Stephens & Shinkle Shoe	.40	J 3,428	6	41/2	53/4	+ 11/8
Jones & Laughlin Steel*	2.00	135,079	37	201/4	37	+171/8
	1	K				
Kaiser Aluminum	1.30	14,389	595/8	263/8	595/8	+35
Kaiser Aluminum, Pfd.	2.50	3,149	713/4	47	713/4	$+26\frac{1}{4}$
Kansas City Power & Light	1.80	22,402	403/4	321/4	401/2	+ 73/4
Kansas Power & Light*	1.12	37,792	221/2	181/2	213/4	+ 31/4
Katz Drug	1.00	28,000	17	11	151/4	+ 41/8
Kelley Island Lime	1.05	28,485	30	195/8	291/2	+ 91/2
Kennecott Copper*	6:00	51,592	1067/8	643/4	1065/8	+443/8
Kimberly-Clark (Old)	2.70+	315	70	70	70	+211/2
Kimberly-Clark (New)		3,673	413/8	341/8	41	New
Kio Oil & Development	15	1,300 71,200	37/8	33/ ₈ 25/ ₈	$\frac{31/_{2}}{4^{3}/_{4}}$	New
Knapp-Monarch	.15 .12½	17,700	53/ ₈ 31/ ₈	23/8	3	+ ⁷ / ₈ Unch
morp 10.50		L	- 78	,,0		
Laclede Gas	.60	100,701	131/2	93/4	133/8	+ 3½
Lamson & Sessions	1.50	10,300	21	153/4	201/2	+ 51/8
Landis Machine	1.00	624	22	181/2	22	+ 31/2
LaSalle Extension University	.55	10,500	9 .	7	81/2	+ 11/4
Leath & Co.	2.00	8,150	24	165/8	221/2	+ 3%
Leath & Co., Pfd.	2.50	815	43	381/4	421/2	+ 4
Libby, McNeill & Libby	.60	133,826	133/4	87/8	131/4	+43/8
Lincoln Printing	2.00	6,200	20	15	187/8	+ 21/8
Lincoln Printing, Pfd.	3.50	116	525/8	52	52	- 1/4
Lindsay Chemical (Old)	1.95†	12,975	2041/2	897/8	1971/2	+108½
Lindsay Chemical (New)Lindsay Chemical Pfd. (Old)	.15	47,850 310	48 151/4	313/4	$\frac{441/_{2}}{15}$	New
Lindsay Chemical Pfd. (New)	.07	400	41/2	3	3	Unch New
Lion Oil	2.00	40,126	491/8	323/8	483/4	+ 83/4
Lonergan Mfg. "B"		134,550	75/8	4	61/4	+ 23/8
Louisville Gas & Electric	1.80	8,402	481/8	411/2	47	+ 55/8
Lytton's (Henry C.)	.50	12,800	87/8	71/4	87/8	New
	1	м				
Mapes Consolidated	2.00	284	303/4	303/4	303/4	10½
Marquette Cement	2.60	16,798	70	42	70	New
Marshall Field	2.00	90,883	333/4	241/8	331/2	+ 93/8
Martin (Glenn L.)*	1.00†	118,405	331/2	17	323/8	+157/8
Makes (Arthur C)	1.50†	25,300	491/2	417/8	43	+147/8
McKee (Arthur G.)	2.40	1,335	311/4	221/2	311/4	+ 73/4
Stock only	an an an and an an	1,100	60	581/2	60	+1
Medusa Port. Cement (1st New)	2.80†	14,975	128	51	128	New
Medusa Port, Cement (2nd New)	====	7,350	75	60	643/4	New
Metropolitan Brick	.70	23,700	12	67/8	115/8	+51/8
Meyer Blanke	1.75	2,266	221/2	197/8	211/2	+ 11/2
Mickelberry's Foods	1.00	17,800	141/2	101/4	131/2	+ 21/2
Miller & Hart	1.421/2	22,357 68,100	323/8	27	311/8	+ 37/8
	ar which make	00,100	41/8	23/4	31/2	+ 5/8

MIDWEST STOCK RANGE IN 1954

MIDWEST	STOC	KRAN	GE IN	1954		
Т	otal 195	4				Net
	Div.	Vol.	High	Low	Last	Chge.
Miller & Hart, Pfd.	And mean company, con comp	9,350	21	11	163/4	1 02/
Minneapolis Brewing	.30	126,200	77/8	55/8	7	+ 23/4 + 11/4
Minnesota Mining*	1.30	29,264	891/4	551/4	851/2	$+27\frac{1}{2}$
Mississippi River Fuel		. 49,095	54	377/8	531/2	+16
Missouri Portland Cement (Old) Missouri Portland Cement (New)	3.00†	30,150	85	341/2	84	+505/8
Modine Manufacturing	1.60	3,750	79	$67\frac{1}{4}$	$691/_{2}$	New
Monroe Chemical	1.00	10,050 2,564	321/8	22	28	- 1/4
Monroe Chemical, Pfd.	.871/9		$\frac{33}{8}$ $\frac{331}{2}$	2 25	21/ ₈ 28	- 5/8 - 6
Montgomery Ward	3.50	155,878	80	563/4	791/2	+231/2
Motorola	1.50	34,820	53	31	491/2	+20
Muskegon Motor Specialties	2.00	3,058	27	243/4	$26\frac{1}{2}$	- 11/2
Muskegon Piston Ring Muter Co.		800	83/4	7	75/8	+ 3/8
Muter Co.	.15†	25,750	73/8	43/4	63/8	+ 7/8
		N				
Nachman Corp.	1.25	500	17	151/2	163/4	+ 13/4
Nash-Kelvinator	***********	42,299	181/8	113/4	113/4	- 41/4
National Cylinder Gas	1.20	32,801	22	173/8	21	+ 35/8
National Distillers*National Lead*		65,613	237/8	167/8	233/4	+ 5
National Presto Industries		27,241 800	63	381/2	63	+25
National Standard	2.00	16,900	10 353/4	$95/_{8}$ $283/_{4}$	10 33½	$+ \frac{3}{4} + \frac{51}{4}$
National Tile	.40	55,100	81/2	31/4	81/4	$+ \frac{574}{4}$
New York Central RR		160,441	341/2	185/8	331/8	+141/8
North American Aviation*	2.75	74,906	513/4	20	511/2	+301/4
North American Car	1.60	40,350	27	173/4	$25\frac{1}{2}$	+ 71/2
North American Co.* (stock only)		40,053	28	20	275/8	+75/8
Northern Illinois Corp.	.80	3,150	141/2	111/4	141/2	+ 21/2
Northern Illinois Gas Northern Pacific RR*	.50 3.00	8,900 34,127	$20\frac{7}{8}$	$20\frac{3}{4}$ $53\frac{1}{2}$	$\frac{207}{8}$ $71\frac{3}{4}$	New
Northern States Power (Minn.)*		174,655	$167/_{8}$	133/4	163/8	$+17\frac{1}{8}$ $+2\frac{1}{2}$
Northwest Bancorporation	1.95	72,350	57	401/8	$56\frac{1}{4}$	+157/8
Nunn Bush Shoe	1.00	2,464	16	14	16	+ 13/4
		o				
						u la /
Oak Mfg.		92,700	24	161/2	22¾ 49	$+ 5\frac{7}{8} \\ - 3$
Ohio Brass "B"	4.00 2.20	200 63,549	51 447/ ₈	48 38¾	49	-57/8
Ohio Edison	3.00	29,096	691/2	547/8	687/8	$+12\frac{7}{8}$
Oklahoma Gas & Electric	1.50	10,795	323/8	27	313/8	+ 45/8
Oklahoma Natural Gas	1.20	6,801	241/4	211/2	233/4	+ 4
Olin Mathieson Chemical	50	23,047	593/4	431/4	57	New
		P				
Packard Motors*	4-11-11-11-11-11-11-11-11-11-11-11-11-11	236,430	43/8	21/2	23/4	- 7/8
Pan American World Airways*	.80	106,974	203/8	93/8	20	$+10\frac{7}{8}$
Paramount Pictures*	2.00	18,964	403/8	271/8	401/8	$+12\frac{3}{4}$
Parker Pen "A"	1.20	4,700	201/2	133/8	201/2	$+6\frac{3}{4}$
Parker Pen "B"	1.20	16,800	203/4	133/8	201/2	+ 71/8
Parkersburg-Aetna	.50	2,160	81/2	$65/_{8}$ $143/_{4}$	$67/_{8}$ $153/_{4}$	New — 23/4
Patterson-Sargeant	1.00	8,100 51 207	19 5½	27/8	51/4	-+ 21/4
Peabody Coal Pfd	September 19	51,397 28,552	$15\frac{3}{4}$	103/8	143/4	+ 37/8
Peabody Coal, Pfd Penn Controls "A"	1.20	31,900	57	201/4	56	$+35\frac{3}{4}$
Pennsylvania Railroad	.75	158,004	25	16	237/8	+ 7
Peoples Gas Light & Coke	6.25	21,065	167	1351/2	154	+20
Pepsi-Cola	.90	160,083	183/4	131/4	183/4	+ 55/8
Perfect Circle	1.00†	1,033	21	141/8	21 271/	$+7\frac{1}{4}$
Pfizer (Chas.)*	1.35	45,175	381/ ₈	$\frac{305}{8}$	371/4 52	$+ \frac{3\%}{+19}$
Phelps Dodge*	3.00	52,661 30,688	52¼ 39	28	377/ ₈	+ 91/8
Phillips Potroleum*	1.60 2.60	59,509	751/8	543/8	751/8	+213/8
Phillips Petroleum* Potter Co.	.50	3,650	103/4	71/8	10	- 5/8
Process Corp.		2,060	15	8	143/4	+ 53/4
Public Service of Indiana	2.00	47,162	421/2	361/8	41	+ 43/8

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- * QUICK PLUG
- ★ DRY WALL MATERIALS

MIDWEST STOCK RANGE IN 1954

MIDWEST	STOCI	KRAN	JE IN	1954		
Te	otal 1954	1				Net
*	Div.	·Vol.	High	Low	Last	Chge.
	27111					
Pullman*	4.00	29,727	$657/_{8}$	411/2	$65\frac{1}{2}$	$+25\frac{1}{8}$
Pure Oil*	3.00	39,827.	731/2	48	723/4	$+25\frac{3}{4}$
		0				
		Q				
Quaker Oats	1.40	57,885	$347/_{8}$	$28\frac{1}{8}$	325/8	+45/8
		R				
Radio Corporation of America	1.20	153,292	39	225/8	39	$+15\frac{3}{4}$
RKO Pictures*		44,714	$8\frac{1}{4}$	3	81/4	+ 5%
RKO Theatres*		19,505	10	43/4	10	+ 51/8
Rath Packing	1.40	330	$24\frac{1}{2}$	$23\frac{1}{4}$	24	+ 11/4
Raytheon Mfg. (stock only)		57,652	$20\frac{1}{4}$	87/8	$20\frac{1}{4}$	+113/8
Remington Rand*	1.00	61,641	$357/_{8}$	$14\frac{1}{4}$	$33\frac{5}{8}$	+195/8
Republic Steel*	$4.87\frac{1}{2}$	71,542	843/4	$47\frac{1}{2}$	843/4	$+36\frac{1}{8}$
Rexall Drug*	.20	40,363	85/8	$61/_{8}$	81/4	+ 13/4
Reynolds (R. J.) Tobacco "B"*	2.40	201,374	441/4	333/4	423/4	+ 31/4
Richman Brothers	2.00	83,800	$26\frac{3}{4}$	$21\frac{1}{8}$	241/4	+ 3/4
River Raisin Paper	.80	10,200	$10\frac{1}{4}$	87/8	101/4	+ 11/2
Rockwell Spring & Axle	2.00	38,165	$25\frac{3}{4}$	19	$25\frac{3}{4}$	$+6\frac{7}{8}$
		61				
		S				
St. Louis National Stockyards	4.25	1,680	$58\frac{3}{4}$	$51\frac{1}{2}$	57	+ 2
St. Louis Public Service "A"	1.40	151,400	16	12	$15\frac{1}{2}$	+ 13/4
St. Regis Paper	$1.57\frac{1}{2}$	76,894	41	203/8	401/2	$+20\frac{1}{8}$
Sangamo Electric	1.50	14,855	$29\frac{1}{4}$	233/4	291/4	+ 41/4
Schenley Industries*	1.50	63,910	27	$17\frac{1}{2}$	267/8	+ 57/8
Schwitzer-Cummins	1.25	11,050	19	141/4	19	+ 31/2
Scurry Rainbow Limited		23,538	11/2	3/4	1-1/16	New
Sears Roebuck	3.05	85,732	781/2	$57\frac{3}{8}$	771/4	$+16\frac{1}{4}$
Serrick Corp. "B"	1.15	5,500	147/8	10	111/4	- 31/8
Shell Oil (Old)	.75†	3,078	$93\frac{1}{2}$	$773/_{4}$	$93\frac{1}{2}$	+16
Shell Oil (New)	1.50	10,194	593/4	$43\frac{1}{2}$	593/4	New
Signode Steel Strapping	1.05+	42,300	293/4	$163/_{8}$	28	$+11\frac{1}{2}$
Sinclair Oil	2.60	137,114	$523/_{8}$	$32\frac{1}{2}$	$521/_{8}$	$+20\frac{1}{4}$
Socony-Vacuum*	2.25	134,018	$54\frac{1}{4}$	$351/_{2}$	$54\frac{1}{4}$	$+19\frac{1}{8}$
South Bend Lathe	2.00	21,450	28	24	26	$+1\frac{3}{4}$
Southern Company*	.80	109,431	187/8	$157/_{8}$	181/8	+ 2
Southwestern Public Service	1.32	17,479	287/8	$25\frac{1}{4}$	28	New
Southern Pacific*	3.00	66,390	$54\frac{1}{2}$	$367/_{8}$	543_{8}	+175/8
Sparks-Withington, Pfd.	6.00	55	85	85	85	- 3
Spiegel, Inc.		36,870	111/8	63/8	105/8	+45/8
Spiegel Warrants		18,900	$2\frac{1}{4}$	1	17/8	+ ½
Standard Dredging	.20	16,760	55/8	33/4	5	+ 13/8
Standard Oil of California	3.00+	55,264	773/8	53	$767/_{8}$	$+24\frac{1}{4}$
Standard Oil (Indiana) (Old)	2.50†	99,279	955/8	681/2	$941/_{2}$	$+26\frac{1}{8}$
Standard Oil (Indiana) (New)	9 (14)	29,015	483/8	451/4	481/4	New
Standard Oil (Kentucky)	3.00	300	543/4	521/4	543/4	+123/i
Standard Oil (New Jersey)	4.55	181,923	1111/2	723/8	111	+39
Standard Oil (Ohio) Standard Railway Equipment	2.40	79,540	45	321/2	45	+13
Stein (A.) & Co.	.65	55,979	103/8	71/8	93/8	+ 1/4
Stewart-Warner	1.20	560	171/2	171/2	171/2	+ 1/4
Stone Container	1.95	43,173	263/4	191/2	261/8	+ 51/2
Storkline Furniture	.80	58,350	14	95/8	13	+ 31/2
Studebaker Corp.*	1.50 .40	3,250	21	171/4	183/4	+ 1/4
Studebaker-Packard*		66,963	221/4	141/2	195/8	— 7/ ₈
Sunbeam Corp.	1.00+	63,707	141/4	101/2	133/4	New
Sundstrand Machine Tool	1.50†	28,607	48	32	451/4	$+10\frac{3}{4}$
Sunray Oil	1.507	190,900	361/2	151/8	333/8	+18
Swift & Co.	3.00	168,201 80,830	233/4	161/4	235/8	+ 75/8
	3.00	00,000	513/8	417/8	477/8	+ 41/8
		Г				
Texas Co,			081			
Texas Gulf Producing.	3.75	62,384	871/2	575/8	855/8	$+28\frac{3}{8}$
and Outi i roducing	1.55	8,756	871/9	401/4	831/6	_1 451%

2.08

1.50+

.25

1.60

651/2

17

35

8,182

651/2

48

11

651/2

157/8

48

 $+16\frac{3}{4}$

Unch

+ 17/8

MIDWEST STOCK RANGE IN 1954

MIDWES];			PE IIV	1954		
To	otal 1954					Net
	Div.	Vol.	High	Low	Last	Chge.
Trane Co. (Old)	1.50+	98,550	951/4	365/8	93	1 50
Trane Co. (New)		7,300	481/2	$40\frac{1}{2}$	451/4	+56 New
Transamerica*	1.40	33,926	403/8	255/8	401/8	+12½
Toledo Edison	.70	68,107	15	121/2	143/8	+ 13/4
Trav-ler Radio	$.221/_{2}$	112,600	37/8	2	37/8	+ 17/8
Tricontinental*	1.27	23,452	267/8	155/8	$26\frac{7}{8}$	+115/8
Truax-Traer Coal	1.60	39,237	19	13	19	+ 35/8
Truax-Traer Coal, Pfd.	2.80	1,487	503/4	$43\frac{1}{2}$	503/4	+ 73/4
Twentieth Century Fox*	1.60	48,173	30	191/8	30	+ 9
208 South LaSalle Street	3.00	4,752	69	59	621/8	+ 23/8
		U				
Union Carbon & Carbide	2.50	73,645	885/8	707/	97	1.10=1
Union Oil of California		51,051	581/4	$70\frac{7}{8}$ $38\frac{5}{8}$	87 563/8	+127/8
United Air Lines	1.50	50,914	361/2	213/8	361/4	$+17\frac{1}{8}$ $+14\frac{1}{2}$
United Corp.*	.27	35,963	61/8	47/8	6	+ 11/8
United Specialties		100	103/4	103/4	103/4	- 3½
U. S. Industries	.80	23,528	137/8	73/4	133/4	+ 5%
U. S. Rubber*	2.00	32,100	463/8	291/4	443/8	+141/4
U. S. Gypsum		9,745	228	126	220	+102
U. S. Steel	3.00	390,982	$74\frac{1}{2}$	$391/_{8}$	731/2	+385/8
		v				
Van Dorn Iron		21,600	10	8	9	$+ 1\frac{1}{2}$
	,	W				
THE LOCAL CO.			ow. /	044		001
Walgreen Co.		35,752	271/4	241/8	27	+ 23/4
Western Union		28,760	80 705/	357/8	757/8	+337/8
Westinghouse Electric		114,922	795/8 995/8	50½ 995/ ₈	795/8	$+27\frac{7}{8}$ + $\frac{5}{8}$
Whirlpool Corp. (Old)		2,550	26 ³ / ₈	21	995/ ₈ 24	+ 57/8
Whirlpool Corp. (New)		1,500	247/8	227/8	247/8	New
White Motors		19,410	361/2	271/8	347/8	+ 47/8
Wieboldt Stores	1.00	20,350	193/4	123/4	171/2	+ 31/2
Wieboldt Stores, Pfd.	4.25	1,037	851/4	771/2	851/4	+ 81/4
Willys-Overland*	Management Street	856	165/8	147/8	15	+ 11/2
Wisconsin Bankshares		60,050	193/4	$14\frac{1}{2}$	193/4	$+ 5\frac{1}{4}$
Wisconsin Electric Power*		27,559	335/8	287/8	315/8	+ 25/8
Wisconsin Public Service		70,967	215/8	19	211/2	+ 25/8
Woolworth (F. W.)*	2.50	100,389	541/2	401/2	517/8	+ 9
World Publishing		485	$\frac{20\frac{3}{4}}{92}$	14½ 79	20 90	$+6\frac{1}{4}$ $+10$
Wrigley (Wm.) Jr	4.00	10,035	94	13	30	710
		Y				*
Yates American Machine	.25	13,500	11	81/2	101/4	+ 3/4
Youngstown Sheet & Tube		49,492	73	383/8	73	435
Toungstown sheet & Tuot	00	20,204				,
		Z				
Zenith Radio	3.00	12,543	953/8	651/4	911/8	+275/8
	DOM	TOOTITE				
		ISSUES	1101/	1101/	11017	
Amer. Tel. & Tel. 33/4s of 1965		37,000	1191/4	1191/4	1191/4	
	RIG	HTS				
American Cynamid*	48,6	00	14/32	7	7/32	7/32
Columbia Gas & Elec.*	128,0	00	17/64		1/64	14/64
Consumers Power	70,3	00	8/32		5/32	8/32
Detroit Edison*	29,6	00	30/64		5/64	29/64
General Public Utilities*	12,5	00	11/64		9/64	11/64
Lindsay Chemical	139,5	00 -	1 5/16		1/2	7 /39
Middle South Utilities	42,5	00	9/32		5/32 1/22	7/32 1/32
Northern States Power*	291,8	00	3/32		1/32 D/ 3 2	11/32
Ohio Edison	50,5	00	12/32		3/32 3/32	12/32
Wisconsin Electric Power*	61.7	00	12/32 8/32		7/32	7/32
Wisconsin Public Service	01,/		0,02			

^{*} Admitted to trading under 12(f) of the S. E. C. Act of 1934.

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Savings and loan assets hit new high

SSETS of the fast-growing 189 insured savings and loan associations in Chicago and Cook County continued to soar in 1954, passing the \$2 billion mark for the first time in the local history of these institutions. The associations have multiplied their assets some three-and-a-half times in the postwar period, since total assets stood at \$583 million at the end of 1947. William J. Remus, president of the Cook County Council of Insured Savings Associations, confidently predicts that savings, too, will reach or surpass the \$2 billion mark during 1955.

The number of federally insured associations remained at 54 for the year, with total assets, as of December 31, of \$1,074,597,000, a gain of \$172,144,000 over 1953. Savings capital increased 19.5 percent — from \$742,332,000 at the end of 1953 to \$887,116,000.

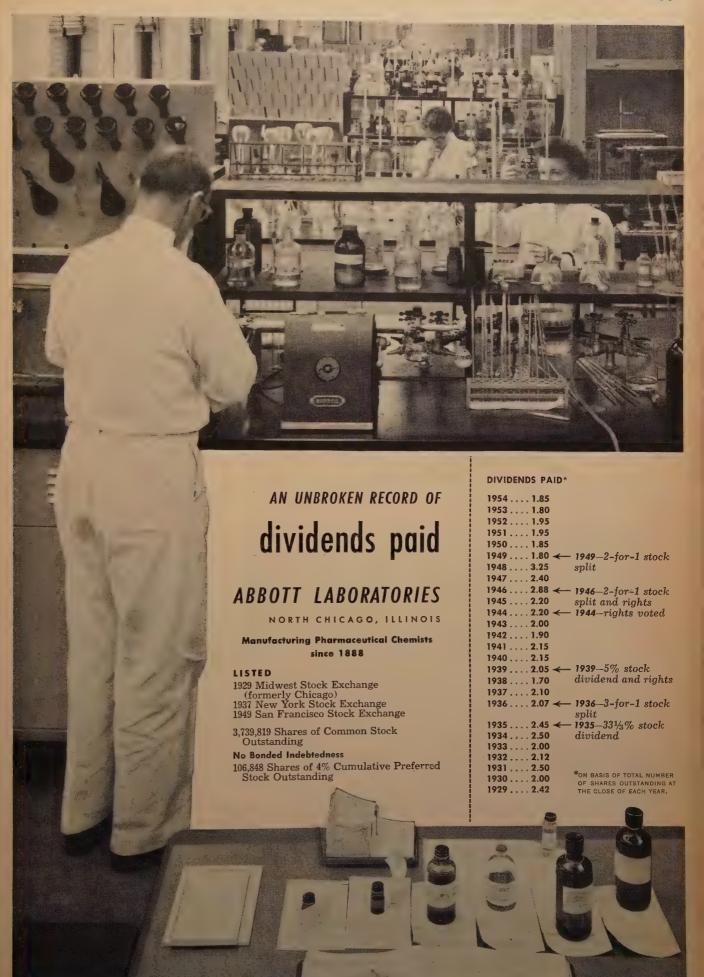
State insured associations, with their number increased by ten to a total of 135, reported a 24.1 per cent increase in savings capital, from \$618,254,000 for 1953 to \$771,642,000 for 1954. Total assets of this group rose from \$755,042,000 to \$939,123,000.

Combined assets of the 189 associations thus totaled \$2,013,720,000, for a 21 per cent increase; and combined savings capital was \$1,658,758,000, or a gain of 21.5 per cent.

Home Financing Up

The growing importance of the savings and loan institutions in home financing was reflected in the report by John E. Stipp, president of the Federal Home Loan Bank of Chicago, that insured associations accounted for some 60 percent of all 1954 home mortgages of \$20,000 or less in Cook County. The associations made 48,786 loans totaling \$503,227,860 during the year. All other lenders combined issued 39,639 mortgages totaling \$328,999,943. Total lending on Cook County property was up 14.9 per cent.

Combined mortgage figures for the 189 associations reached \$1,-





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634,915,000, a 22 per cent increase over 1953. A rising proportion of association mortgage money is going into newly constructed homes—32 per cent in 1953, and more than 35 per cent in 1954. The lower equity, longer term provisions of the 1954 Federal Housing Act are expected to boost this proportion still further, with a particularly heavy business in home financing for veterans.

Secondary Borrowing Up

The demand for home financing was so large in 1954 that despite their own steadily increasing resources, associations borrowed about four per cent more than in 1953 from their secondary source of funds, the Federal Home Loan Bank of Chicago. The Bank lent its members in Illinois and Wisconsin approximately \$100 million during the year, the bulk of which is repaid during the winter months when new construction slows down.

The growth of the Cook County associations surpassed that of the savings and loan field nationally. The United States Savings and Loan League estimated that the approximately 6,000 associations in the nation gained about 17.1 per cent in total assets, which stood at an estimated \$31 billion, 300 million at the end of the year as against \$26 billion 642 million at the end of 1953. Savings and loan financed mortgages increased some 19 per cent, from \$22 billion 52 million for 1953 to an estimated \$26 billion 250 million at the end of 1954.

Federal Associations (in thousands of dollars)

	Dec. 31 1954	Dec. 31 1953	% In- crease
Number of Associations	54	54	
Mortgage Loans\$	849,339 \$	696,097	22.0
Savings Capital	887,116	742,332	
Total Assets	1,074,597	902,453	19.0

Insured State Institutions* (in thousands of dollars)

(in thousands of dollars)

Number of
Associations 135 125

Mortgage
Loans \$785,576 \$642,295 22.0

Savings
Capital 771,642 622,779 24.1

Total Assets 939,123 755,042 24.3

*1954 figures are preliminary

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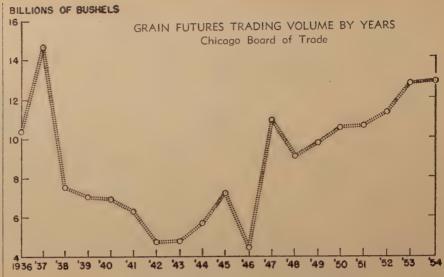
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Heavy soybean trading sparks grain market

ACTIVITY on the Chicago Board of Trade in 1954 centered in the soybean market where the volume of trade nearly equalled that of all grains combined. Soybean prices had a spectacular rise, crossing the \$4.00 level for the first time in six years, as the 1953 crop was small and the supply barely sufficient to take care of the nation's needs.

Soybeans were not confronted with the artificial influences that plagued wheat and corn. There was no appreciable stock of soybeans in government hands, contrasting with the mountainous supply of wheat and corn owned by the government, and the government support price on soybeans consequently did not act as a ceiling. In fact the market value was far above the support price.

Futures trading in Chicago last year was the largest since 1937 because of the active interest in soybeans, and totaled 12,777,008,000 bushels. This was slightly above the 12,763,079,000 bushel volume in grain and soybeans in 1953. Wheat trading amounted to 3,171,937,000 bushels, and the soybean total of 6,083,671,000 bushels was the heaviest of record.

Inasmuch as the government owned so much grain in various geographical positions, the normal movement and distribution of grain was disrupted. Much government feed grain was shipped to drouth emergency areas. Receipts of grain and soybeans in Chicago in 1954 amounted to 191,426,000 bushels. This compared with 196,449,000 bushels in 1953, and was the smallest since 1942.

Soybean Prices Up

Grain prices were inclined to run below those of the preceding season during the first half of the year, but the trend was reversed in the final six months. Soybean prices ranged higher than in 1953 in practically all months.

United States crop production in 1954 was one of the largest of record despite acreage restrictions for several important crops and severe drouth in a large part of the country. Wheat production, estimated at 970,000,000 bushels, was 17 per cent smaller than the 1953 crop of 1,169,000,000 bushels. Production of corn was placed at 2,965,000,000 bushels, three per cent under average and seven per cent below the

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preceding year. Big crops of oats and barley were raised — 1,500,000,000 and 370,000,000 bushels, respectively, and soybean production was the largest on record at 343,000,000 bushels.

The government inventory of non-committed wheat at the close of 1954 was approximately 704,-000,000 bushels. The government also held 595,000,000 bushels of corn and 21,380,000 bushels of oats. It was expected that about 400,-000,000 bushels of 1954 crop wheat would be placed in the government support program by growers. This large quantity, together with what the government already owns, has taken so much wheat out of commercial channels that mills have had difficulty in getting supplies and in order to get milling grade wheat they paid big premiums above the market.

Largest Corn Market

Chicago upheld its reputation as the world's largest corn market. Receipts of corn for the year totaled 102,000,000 bushels, and refiners depended greatly upon this market for their supplies of the raw material. The nation's commercial use of corn last year was of average volume, wet processors using about 128,000,000 bushels as compared with 130,000,000 the preceding year, and alcohol manufacturers utilizing about 24,000,000 against 17,000,000 the year before. United States exports of corn last season totaled about 95,000,000 bushels, or 43,000,000 less than in the preceding season.

Cash corn in the Chicago market, contract grade, ranged from \$1.483/4 to \$1.72 a bushel. The smaller 1954 crop of corn was offset by the big carryover of old corn, 918,200,000 bushels, of which the government had 467,800,000 bushels in its own bins.

The 1953-54 supply of soybeans totaled around 278,000,000 bushels and most of this was used as the carryover was very small. Approximately 50,000,000 bushels of soybeans were shipped overseas. The 1954-55 season supply of soybeans totaled about 345,000,000 bushels, the largest of record. Illinois is the banner producer of soybeans, harvesting 92,214,000 bushels of the total crop of 342,795,000.

GRAIN FUTURES VOLUME

Volume of sales in bushels of wheat, corn, oats and soybeans, and total of all grains combined, on the Chicago Board of Trade (000 omitted)

8 (the Chicago E	oard of Irade	(000 omitted)	
	Wheat	Corn	Oats	Soybeans	All Grain
Jan.	197,492	157,098	69,740	480,435	944.825
Feb.	197,147	134,553	72,990	472,412	912,668
Mar.		158,866	64,484	694,914	1,277,046
Apr.	352,688	181,210	67.160	580,609	
May	291,431	115,114	67,702	513,329	1,234,336
June	292,957	115,174	50,296	467,010	1,023,764
July	390,856	250,541	92,307	468,677	955,434
Aug.	276,987	197,380	59,576	504,065	1,240,783 1,097,430
Sept.	235,769	144,617	62,527	396,735	962,635
Oct.		127,737	55,416	517,958	959.707
Nov.	184,476	236,375	65,944	519,652	1.071.811
Dec	262.523	208,962	82,018	467,875	1.096,569
Total 1954	3,171,937	2,027,627	810,160	6.083.671	12,777,008
Total 1953	3,648,142	2,807,562	1,874,421	3,552,987	12,763,079
Total 1952	2,588,072	2,709,841	2,350,391	3,088,770	11,229,310
Total 1951	3,518,267	2,496,387	1,714,983	2,396,864	10,621,121
Total 1950	2,991,644	1,900,650	1,219,730	3,906,799	10,545,966
Total 1949	3,617,785	2,526,460	776,852	2,545,051	9,745,196
Total 1948	3,208,209	3,739,934	1,647,819	522,620	9,153,955
Total 1947	4,204,240	3,389,151	2,780,632	18,875	10.933,602
Total 1946		661,444	2,877,738		4,401,595
Total 1945	2,044,704	363,640	1,720,188	F	7,213,608
Total 1944	1,584,436	182,468	687,501	************	5,656,700
Total 1943	1,825,161	204,761	691,327	445	4,754,756
Total 1942	1,905,649	1.287.348	318,669	193,762	4,677,490
Total 1941	_ 3,800,866	783,918	371,395	994,466	6,280,353
Total 1940	5,444,785	898,930	228,733	134,971	6,986,633
Total 1939	5,026,736	1,444,357	381,886	79,943	7,141,504
Total 1938	5,683,442	1,495,336	215,182	23,478	7,497,441
Total 1937	.10,889,144	2,546,361	898,987	27,318	14,680,435
Total 1936	7,342,880	1,995,674	896,907	11,838	10,454,557
	GRAIN	FUTURES	PRICE RAN	GE	
	OIC III 4	. 5 . 5	TOOL TO WA	OL.	

GRAIN FUTURES PRICE RANGE DECEMBER WHEAT

19	19	195	2	1951
Jan. \$2.083/8@	\$2.131/4 \$2.341/46	\$2.401/2 \$2.50 @	\$2.55	
Feb 2.085/8@				@\$2.591/4
Mar 2.171/4@	2.283/8 2.315/8@	$2.40\frac{1}{4}$ $2.47\frac{1}{8}$	2.52 2.41	@ 2.531/8
Apr 2.06½@	2.261/2 2.275/8@	$2.35\frac{1}{4}$ $2.38\frac{1}{2}$	2.491/8 2.491/2	@ 2.571/4
May 1.98 @	$2.08\frac{1}{4}$ 2.10 @	2.395/8@	2.43% $2.41%$	@ 2.545/8
June 1.953/4@	2.031/8 1.961/4@	2.14 2.345/8@		@ 2.463/4
July 2.00 @	$2.17\frac{1}{4}$ $1.99\frac{5}{8}$	$2.08\frac{1}{8}$ $2.35\frac{3}{8}$		$@ 2.44\frac{1}{2}$
Aug 2.085/8@		2.04% $2.35%$		@ 2.453/4
Sept 2.137/8@	$1.86\frac{3}{4}$	1.99% $2.32%$		@ 2.475/8
Oct 2.15i/8@) 2.23½ 1.89¾@	$1.98\frac{3}{4}$ $2.32\frac{1}{8}$ @		$@ 2.56\frac{1}{8} $
Nov 2.215/8@	2.301/4 1.937/8@	2.03% $2.31%$		@ 2.68
Dec 2.303/8@	2.23 1.98 @	$2.08\frac{1}{4}$ $2.28\frac{1}{2}$	2.361/4 2.57	@ 2.701/4

MA	Υ '	WH	EAI	
1	953	-54		

1954-55	1953-54	1952-53	1951-52
June	00 0417 - 40 01	\$2.371/2@\$2.421/2	\$2.411/4@\$2.487/8
July\$2.003/4@\$2	2.153/8 2.051/4@ 2.163/8	2.381/8@ 2.445/8	2.38 @ 2.47
Aug. 2.07 @ 2	$1.16\frac{1}{4}$ $1.86\frac{3}{4}$ @ $2.10\frac{3}{4}$	$2.42\frac{7}{8}$ @ 2.48	2.413/4@ 2.465/8
Sept 2.131/4@ 2	$1.88\frac{1}{2}$ 0 1.99%	$2.41\frac{1}{4}$ @ $2.45\frac{1}{2}$	2.453/4@ 2.511/2
Oct 2.147/8@ 2	$1.93\frac{1}{4}$ @ $2.04\frac{1}{8}$	2.411/2@ 2.483/8	2.493/8@ 2.583/8
Nov. 2.203/8@ 2	.291/8 1.983/4@ 2.07	2.42 @ 2.49%	$2.51\frac{1}{2}$ @ $2.62\frac{1}{2}$
Dec. 2.20 @ 2		$2.35\frac{1}{2}$ @ $2.45\frac{3}{4}$	2.54%@ 2.651/2
Jan		$2.29\frac{3}{4}$ @ 2.38	2.515% @ $2.57\frac{1}{2}$
Feb		2.211/2@ 2.327/8	2.483/8@ 2.54
Mar	2.17 @ 2.311/4	2.221/8@ 2.321/2	2.483/4@ 2.56
Apr.	2.011/2@ 2.215/8	2.157/8@ $2.251/4$	2.403/4@ 2.521/2
May	1.951/4@ 2.051/2	2.103/4@ 2.187/8	$2.40\frac{1}{2}$ @ $2.50\frac{1}{2}$

DECEMBER CORN

1954	1953	1952	1951
Jan. \$1.44\% (\$1.47\% Feb. 1.43\/2\@ 1.47\/8 Mar. 1.44\/4\@ 1.503\% Apr. 1.42 @ 1.47\/4 May 1.39\% (B) 1.45\/2 July 1.41\/4\@ 1.62\/4 Aug. 1.50\/8\@ 1.58 Sept. 1.49\/6\@ 1.57\/4 Oct. 1.50\/8\@ 1.56\/8 Nov. 1.54\/8\@ 1.59\/8 Dec. 1.52 @ 1.57\/8	\$1.60\/4 (@ \$1.64\/2 1.50\/3 4 (@ 1.61\/2 1.54\/8 (@ 1.61\/2 1.55\/4 (@ 1.61\/2 1.57\/3 4 1.45\/8 (@ 1.56\/8 1.55\/8 (@ 1.56\/8 1.46\/4 1.33\/8 (@ 1.46\/4 1.33\/8 (@ 1.50 1.40\/8 (@ 1.51\/2 1.51\/2 (@ 1.57\/2 1.51\/2 (@ 1.57\/4 1.51\/2 (@ 1.57\/4 1.51\/2 (@ 1.57\/4 1.51\/2 (@ 1.57\/4 1.51\/2 (@ 1.57\/4 1.51\/4 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.57\/4 1.50 1.50 1.50 1.50 1.50 1.50 1.50 1.50	\$1.75½@\$1.80 1.69 @ 1.76 1.695%@ 1.785% 1.665%@ 1.76½ 1.703½@ 1.773% 1.665%@ 1.72½ 1.703½@ 1.75½ 1.72 @ 1.783½ 1.67 @ 1.755% 1.63½@ 1.69½ 1.63½@ 1.69½ 1.63½@ 1.69½	\$1.701/4 @ \$1.841/2 1.641/4 @ 1.721/8 1.687/8 @ 1.733/4 1.61 @ 1.693/4 1.54 @ 1.651/2 1.573/4 @ 1.647/8 1.61 @ 1.683/4 1.67 @ 1.777/8 1.735/8 @ 1.801/2 1.761/8 @ 1.925/8 1.875/8 @ 1.961/4

MAY CORN

1954-55	1953-54	1952-53	1951-52	
Tuly \$1.52 @\$1.661/9	\$1.47 ³ / ₄ @ \$1.53 ¹ / ₄ 1.43 ³ / ₈ @ 1.52 ⁷ / ₈ 1.38 ³ / ₈ @ 1.53 ¹ / ₂	1.703/4@ 1.805/8	\$1.62 @\$1.69½ 1.66½ @ 1.735%	



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	Oct Nov Dec	$1.55\frac{7}{8}$ 0 $1.62\frac{1}{2}$ $1.45\frac{1}{2}$ $1.60\frac{1}{8}$ 0 $1.65\frac{1}{2}$ $1.51\frac{1}{2}$ $1.51\frac{1}{2}$ 1.55 0 $1.63\frac{7}{8}$ $1.54\frac{1}{4}$	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1.72½ @ 1.835% 1.79½ @ 1.85¾ 1.80¾ @ 1.95¾ 1.89½ @ 1.98¼ 1.87 @ 1.94¾
	Feb	1.52	@ 1.551/8 1.52 @ 1.641/8 @ 1.563/4 1.55 @ 1.621/8	1.777/8@ 1.873/8 1.791/4@ 1.88
	Apr.	1.483/80	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1.76 @ 1.86 ¹ / ₄ 1.76 ³ / ₈ @ 1.85
			BER OATS	1051
	Jan	. 1954 · .	953 1952	1951
	Mar	\$0.723/4@\$0.765/8 .743/4		\$0.89 @ \$0.99 ¹ / ₄ .84 @ .90 ³ / ₄
	Apr May	$$.71 $@$.74\% .75 ($$.69\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	@ .783 _{/8} .80 @ .83 ⁷ / ₈	.87 @ .93 .85½@ .90¾
	June July	$$ $.71\frac{1}{4}$ @ $.79\frac{3}{4}$ $.74\frac{1}{2}$	@ .771/4 .83 @ .861/8	.77½@ .88 .79 @ .82½
	Aug Sept	$$ $$	@ .76½ .83½@ .89¼	.803/8@ .851/2 .821/2@ .88
	Oct Nov	$$ $.77\frac{1}{2}$ $@$ $.825\frac{1}{8}$ $.73\frac{1}{2}$.865/8@ .911/2 .893/8@ 1.013/8
	Dec	79 @ .84½ .75		.94½@ 1.003/8
	Range of c	CASH GRAIN ash grain prices (contract grad	N PRICE RANGE e) in Chicago during 1954, v	with comparisons:
	11.150 01 0		HEAT	
	Yan	1954 \$2.1434@\$2.28	1953 \$2.30	1952 \$2.55½ @\$2.56¼
	Feb	2.14½@ 2.31¾ 2.27 @ 2.40	2.26 @ \$2.33 2.27 @ 2.32½	2.52 @ 2.52 2.52 @ 2.52 ¹ / ₄
	Apr	2.27 @ 2.40	2.181/2	2.47 @ 2.48½ 2.44 @ 2.46
	June	1.871/2@ 2.001/2	1.85 @ 2.063/4	2.19 ³ / ₄ @ 2.36 2.20 @ 2.34 ³ / ₄
	Aug.	1.93 ³ / ₄ @ 2.18 2.03 ¹ / ₂ @ 2.20 ³ / ₄	1.84½@ 2.04¾ 1.77½@ 1.99	2.24 ¹ / ₄ @ 2.35 ¹ / ₂ 2.27 @ 2.39
	Oct	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1.87½@ 2.00 1.91 @ 2.04	2.28 @ 2.42
		2.22 @ 2.34½ 2.30 @ 2.42	1.98¼@ 2.07¾ 2.02¾@ 2.17	2.28½ @ 2.41½ 2.30½ @ 2.36½
			ORN	
		1954 \$1.55 @\$1.59¾	1953 \$1.59¾ @ \$1.65¼	1952 \$1.88½ @\$2.00
-		1.54¾ @ 1.60 1.56 @ 1.59½	$1.51\frac{1}{4}$ @ $1.62\frac{1}{2}$ $1.55\frac{3}{4}$ @ $1.63\frac{1}{4}$	1.80 @ 1.89½ 1.77 @ 1.91¾
		1.53½@ 1.60½ 1.57¾@ 1.62¾	1.541/4@ 1.621/2 1.591/2@ 1.643/4	1.80 @ 1.89 ¹ / ₄ 1.81 ¹ / ₂ @ 1.89
-	July		$1.51\frac{1}{4}$ @ $1.63\frac{1}{2}$ $1.54\frac{1}{4}$ @ 1.64	1.77 ³ / ₄ @ 1.90 1.77 ¹ / ₂ @ 1.86 ³ / ₄
	Aug Sept	1.62¼ @ 1.69½ 1.52 @ 1.72	1.571/4@ 1.68	1.79 ¹ / ₄ @ 1.87 ¹ / ₂ 1.70 @ 1.86
	Oct	1.52½ @ 1.65¾ 1.48¾ @ 1.57	1.44 @ 1.65¼ 1.41¼ @ 1.60¾	1.51 @ 1.76½ 1.56¾ @ 1.68¼
l	Dec	1.531/4@ 1.591/4	$1.52\frac{1}{2}$ 0 $1.62\frac{3}{4}$	1.58½@ 1.72
1		1954	DATS 1953	1952
		\$0.81 @\$0.861/2	\$0.841/2@\$0.95	\$0.981/4@\$1.063/4
-	Mar		$.76\frac{1}{2}$ @ $.90\frac{1}{2}$.77 @ $.86$.93 @ .99¼ .92¾@ 1.00
١	May		.75¾@ .85 .71½@ .84½	.87 ³ / ₄ @ .97 .82 @ .92 ¹ / ₂
	July		$.71\frac{1}{2}$ $.82\frac{1}{2}$ $.73\frac{1}{2}$ $.82\frac{3}{4}$	$.81\frac{1}{2}$ @ $.87$ $.79\frac{1}{2}$ @ $.86\frac{1}{4}$
	Sept.		$.74\frac{1}{2}$ @ $.87\frac{1}{2}$. $.81\frac{3}{4}$.85 @ .92 .86½@ .96
I	Nov	.831/4@ .921/2	.77½@ .85 .78¼@ .84	.89 @ .96 .89 @ .95
	Dec		.791/4@ .861/2	.86 @ .98
-		S ① Y	BEANS 1953	1952
1	Jan, Feb.		t. St. St. St. St. A. (1999) Stands on phase contributions of the St.	\$2.94 @\$3.03
	Mar	\$3.46	\$3.02½@\$3.03½ 3.08½	3.02 @ 3.06
-	May		2.98½ 2.81½ 2.81½	2.89 ¹ / ₄ 2.96 ³ / ₄ @ 3.11 ³ / ₄
1	July	3.831/2@\$4.00.	2.611/2@ 2.761/2	3.25 @ 3.28 ³ / ₄ 3.23 @ 3.30 ¹ / ₂
		2.62 @ 3.10 2.66 @ 2.90	2.701/2 2.55 @ 2.60 2.563/@ 2.711/	
ø	VVE	2.00 (1) 2.70	4 4 30 4 (0) 7 / 11/9	7 8111/2 (20) 3 (17%/

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Cattle prices hold steady

despite record output

RODUCTION of meat in 1954 reached an all-time high of 25,245,000,000 pounds, topping the 1953 total of 24,795,000,000 pounds. Beef accounted for about half of the volume, with a record high production of 12,650,000,000 pounds.

Animals butchered last year had a value of \$9,129,154,000, a gain of \$290,437,000 over 1953. The value of cattle was \$4,361,350,000 and hogs added up to \$4,004,236,000.

Chicago last year received 2,271,-247 head of cattle, 2,978,817 hogs, 473,744 sheep and lambs and 112,-694 calves, for a total valuation of \$708,358,960. The cattle provided enough beef to maintain per capita consumption at current record peaks for a full year for more than 17,000,000 people.

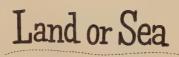
A break-down of the nation's meat production last year showed 12,650,000,000 pounds of beef, including farm slaughter, 1,640,000,000 pounds of veal, 10,305,000,000 pounds of pork, and 650,000,000

pounds of lamb and mutton. A revised estimate for 1953 placed production of beef at 12,444,000,000 pounds, veal 1,559,000,000 pounds, and lamb and mutton 729,000,000 pounds. Lard production was 2,525,000,000 pounds in 1954 and 2,368,000,000 pounds in 1953.

Beef Demand Strong

Demand for beef was so strong throughout the year that returns from the sale of cattle were sufficient most of the time to provide feeders with a moderate margin of profit instead of the severe losses many of them feared because of the great number of cattle available for market.

Cattlemen were paid an average of \$17.70 a hundredweight in 1954 against \$17.66 in 1953. This compared unfavorably with the 1951-52 average of \$27.70 but it stimulated heavy consumption of beef and, of course, cattlemen were able to buy



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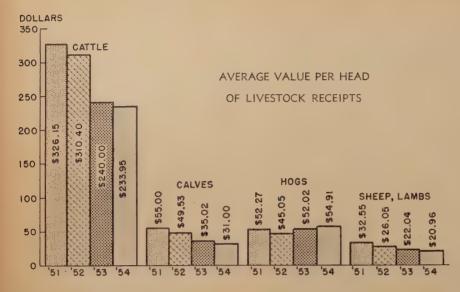


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feeder stock at more satisfactory prices. Retail prices of most beef cuts were slightly higher most of the year than they were at the extreme low period in 1953.

Another factor in the retail trade which aided the cattle producer was the lack of much competition from other meats. Offerings of pork provided little or no competition, as beef could be bought as cheaply

as pork and sometimes cheaper. Even during the final months of the year when hog slaughtering went into its seasonal rise, the demand for beef did not show any signs of tapering off.

The hog trade was plagued by wide fluctuations in volume and prices. Chicago buyers paid an average of \$21.55 a hundredweight, within some of the widest price

ranges ever known. The average was only slightly below the \$21.65 set in 1953. Low volume and high cost hurt processors during the first half of the year, and undoubtedly led to the severe decline in the market for hogs in the final half of the year. Their buying policy showed more than ordinary caution.

Although good tonnage is assured through the first six months of 1955, and current estimates of the 1955 spring pig crop promise a good volume for the remainder of the year, many in the trade are wondering if the spring crop will be as large as estimated in view of the sharp price decline from levels prevailing when sows for the 1954 Fall crop were bred.

Hogs in late 1954 sold at the lowest prices in two years. The lowest daily top in December of 1952 was \$16.75 and the lowest daily average was \$15.90. In December, 1954, prices dipped close to the 1952 level several times. In December of 1953, hog prices averaged \$25.50 on low volume. Costs of top hogs soared to \$28.75 by April, 1954, and averaged \$27.55, highest in history for that period of the year.

Hog Producers' Dilemma

Many leading hog producers say they would prefer more stability in volume and prices than that which prevailed since the low returns cut output two years ago. Abnormally high prices for pork turn customers to other foods. Farmers state that with federal supports holding corn costs up while hog prices decline, there seems little for hog raisers to do except reduce output.

Lamb prices in Chicago during 1954 were at the lowest average in eight years. A partial recovery occurred in the fall and winter months to a point where prices were on a par with or better than in 1953. An increase in the lamb crop and a large slaughter were the major factors in the decline, but greater competition from other meats than in 1953, and lower prices for wool pelts, contributed to the weak market.

The average price of lambs was \$21.20 in 1954, compared with \$22.30 in 1953 and the 1951 all-time high of \$35.60. Top price of



\$28 was \$1 below the previous year's peak. Average price of ewes for slaughter was \$5.50, lowest since 1941. Slaughter of lambs for the first five months of 1954 was slightly under same period in 1953, but from June through August was the biggest in six years.

Receipts of livestock at Chicago as published in the Annual Report by Union Stock Yards and Transit Company of Chicago; and valuation of various species:

CATTLE

	No. of head	Value
1954	2,271,247	\$531,349,884
1953	2,297,943	551,596,080
	1,853,038	575,262,040
	1,622,719	529,249,827
	1,779,945	521,710,526
	1,850,491	472,880,120
	1,694,195	490,966,520
	2,089,433	459,580,537
	1,959,549	321,109,070
1945	2,390,676	336,771,282
1944	2,339,829	286,835,566
1943	2,143,129	295,948,020

CALVES

1954	112,	694 \$	3,496,149
1953	122,	172	4,303,144
1952	111,	794	5,537,367
1951	105,	677	5,812,840
1950	114,	872	5,296,874
1949	164.	104	6,683,384
1948	187.	645	8,288,028
1947	271.	229	10.975,610
1946	194.	243	6.151.138
1945	229	584	6.241,725
1944			7.385.579
1943			5.779.791

HOGS

1954	2,978,817	\$163,585,345
1953	3,187,023	166,478,363
1952	3,868,870	174,302,955
1951	3,907,216	204,255,206
1950	3,670,270	174,606,865
1949	3,425,252	162,204,175
1948	3,341,707	205,776,650
1947	3,317,949	216,796,522
1946	3,541,340	169,022,074
1945	3,516,182	139,597,700
1944	6,018,908	250,857,771
1943	5,791,541	216,839,342

SHEEP AND LAMBS

1954	473,744	\$ 9,927,582
1953	834,993	18,755,094
1952	886,660	23,516,974
1951	523,012	17,028,117
1950	0 2 0 0 10	17,307,495
1949		15,190,186
1948		21,393,447
1947	000 004	20,718,750
1946	1 400 500	22,785,621
1945		24,061,185
1944		24,895,772
1943	2,380,871	30,313,204

AVERAGE VALUE PER HEAD OF LIVESTOCK RECEIPTS AT CHICAGO

	1954	1953	1952	1951
Cattle	\$233.95	\$240.00	\$310.40	\$326.15
Calves		35.02	49.53	55.00
Hogs'	54.91	52.02	45.05	52.27
Sheep and	90.06	99 M	96 OK	32.55

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Mercantile Exchange trade

continues upward trend

RADING on the Chicago Mercantile Exchange for 1954 was featured by an all-time record turnover and the sharpest price decline in egg prices in 35 years, and by the introduction of scrap iron to the Exchange's list of commodities.

Volume of futures contracts traded exceeded 330,000, representing a gain of 30 per cent over 1953 and approximately 85 per cent over the 1948 to 1952 average. This is the sixth consecutive year in which turnover on the Exchange has set a new record.

Perhaps the principal contribution to the trading volume was the tremendous increase in activity in both egg and onion futures. Turnover in these commodities amounted to 199,000 trades in eggs and 131,000 in onions. This trading represented approximately 2,880,000,000 dozen eggs and 78,600,000 sacks or almost 4,000,000,000 pounds of onions.

The steady and firm price trend exhibited in the egg futures market during the first two months of 1954, laid the foundation for the

broadest climb in egg futures in the Exchange's history. The contract for October delivery declined from a mid-February high of 47.6 cents a dozen to a 14 year low of 24.2 cents in October. Only during July, when the intense heat wave experienced in June took a heavy toll of young chicks and made for a drop in egg quality, did the market display any semblance of rallying.

High Chick Purchases

Farmers, encouraged by the favorable return for eggs in the first quarter of 1954, bought a record number of chicks for flock replacements. The average farm price for eggs during the first quarter of the year equalled 100 per cent of parity. Commercial hatcheries worked overtime in an effort to satisfy the heavy demand for chicks and produced 641,728,000 during those months, which was 12 per cent more than production the previous year.

In the meantime, frozen egg processors, in an effort to avoid the extreme scarcity of frozen eggs

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which prevailed in 1953, accumulated supplies to replenish their inventories. This demand, coupled with hatchery requirements and consumer buying for Easter trade absorbed much of the early spring egg output. As inquiries from these outlets decreased around mid-April, many country egg operators were forced to store their surplus for marketing at a later date. Thus the pressure of eggs being placed in storage and hedged on the futures market sent prices downward, with the mid-year heat wave only temporarily stalling the decline.

Wholesale egg prices in Chicago during 1954 matched the action of the futures market to a great degree. Quotations were the lowest in a number of years and at times as much as 21c a dozen under prices for 1953. Top grade eggs made their high in the late summer at 50 to 53c only to work steadily lower thereafter to sell at 31c a dozen in December. This decline occurred in the face of record per capita consumption, estimated by the government at 412 eggs per person.

The butter futures market, once one of the most active on the Exchange, was the smallest in more than a decade. Despite lower government support levels and an increase in consumer usage of butter, economic conditions made it unat-

January 1955 No. 1

tractive for investors and hedgers to utilize the futures market. Less than 100 cars of butter futures were traded during the year compared with 1300 in '53 and 21,000 in 1948.

Butter Price Drop

Largely because of the drop in federal price support and heavy churning of butter, wholesale prices in mid-1954 dropped to their lowest levels in eight years. The popular consumer grade, fresh extra, sank to 561/2c a pound, or one cent under the government support price. Perhaps the outstanding development in the butter situation was the fact that purchases by the government to support prices were much smaller than in 1953. There was also a relatively broad repurchasing demand for Uncle Sam's butter later in the year.

Notwithstanding a smaller crop and a below average carryover of early onions, a lower price trend in onion futures was the rule rather than the exception in 1954.

Reflecting a late planting season due to cold spring weather and extreme heat in early Summer, futures contracts, paced by the January delivery, climbed sharply in July to reach the year's high of \$3.11 per 50-lb. sack. The bulge

FUTURES PRICE RANGE

1	TOKES TRICE	MACE		
/Camba	Shell Eggs	5		
Delivery Month	per dozen in units	of 14,400 d		
Delivery Month	Open	High		Close
January 1954 September 1954	\$41.00	47.60	39.50	44.15
September 1954	45.00		26.75	29.45
October 1954	43.50	47.60	24.20	24.65
November 1954	41.25	42.60		27.40 - 2
December 1954 January 1955	36.75	41.85		
January 1955	30.00	32.05	24.50	32.00 — 3
	Butter			
(Cents p	er pound in units o	f 20,000 por	unds)	
March 1954	59.00		59.00	60.25
November 1954	56,00	58.50	51.00	58.50
				00.00
	Onions			
January 1954 February 1954	1.82	1.87	.62	.62
February 1954	1.97	2.00	.49	.49
March 1954	1.70	1.70	.43	.65
November 1954	1.55	2.49	1.25	1.50
January 1955	1.80	2.90	.99	1.00
	Potatoes			
(Dollars and	d cents per cwt., in	units of 36.	.000 lbs.\	
Ianuary 1954	275	4.00	3.08	3.15
January 1954 (Reds) March 1954	1 99	2.15	1.66	1.66
March 1954	4.00	4.00	2.60	3.10
November 1954	3 30	4.00	3.30	3.51
November 1954 (Reds)	2.25	2.70	2.15	2.25
January 1955	4.20	4.40	3.68	4.40
			`	1.10
	Scrap Iroi			
(Dollars and	cents per ton in u	nits of 40	pross tone)	

31.50

39.75

31.50

35.25

apparently induced growers to harvest every onion available and as a result the crop turned out to be more than plentiful rather than a short one. Subsequently the weight of this additional crop forced futures prices to slump as much as \$1.60 per sack before hurricane "Hazel" destroyed sizeable supplies and bolstered prices. However, the upturn was short lived as the holiday merchandising trade proved insufficient to absorb the still ample supplies.

Potato futures were mostly steady in moderate trading. Crop production was in line with trade needs and with growing conditions generally good, prices on the Exchange held within a narrow range.

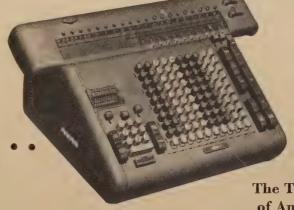
Scrap Futures Trading

Trading in the scrap futures started in September and almost 20,000 tons of scrap iron for early 1955 delivery were traded by the year end. Prices rose sharply after Labor Day, with the January delivery climbing to \$39.75 only to plunge to \$8.25 per ton in following weeks under the weight of investment selling and hedging. Trading in No. 2 scrap was added on December 15th, to provide broader hedging facilities. Improved export business and larger than expected demand by steel mills strengthend the market in the final weeks of the year.

Sparked by the increase in trading volume, memberships on the Exchange rose to a new high of \$5,100, a gain of more than \$2,000 for the year, and the highest price for the past twenty-five years.

Everette B. Harris, President of the Exchange said that 1954 exceeded his most optimistic expectations. He also called attention to the statement of a year ago that some far reaching decisions by the Secretary of Agriculture as to the future course of commodities would be imperative. "While the problems of agriculture have by no means been solved," Mr. Harris stated, "Secretary Benson has made his position very clear. As a result, definite steps toward solution have been taken. We believe that 1955 will see a continuation of these and other steps in the direction of a final answer to the country's surplus commodity situation."

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Drop in industrial production hits carriers

HE decline in industrial production during 1954 was reflected in reductions in the volume of business handled by all forms of transportation with the exception of barge lines and petroleum pipe lines. Railroad carloadings were 12 per cent under 1953, and regulated motor carriers experienced about a 5 per cent drop in traffic. A bright spot on the horizon was the fact that during the closing weeks of 1954, traffic showed signs of leveling off and as a result the carriers embarked on the new year with a feeling of optimism.

Reduced earnings necessitated the cutting of equipment and road property expenditures. The \$800 million spent by the railroads in 1954 for improvements of plant and equipment was 36 per cent under 1953. Truck production was down 19 per cent and trailer production 43 per cent. Railroad freight rates generally remained unchanged during the year, although moves were

made to initiate volume rates on less than carload traffic and special rates to cover trailer - on - flat - car hauls. Motor carrier rates in certain areas were increased and there was also a continuation of the trend toward establishing the railroad basis of rates.

Passenger Traffic Off

Railroad passenger traffic during 1954 was 7 per cent below the previous year and intercity bus lines experienced a drop of about 6 per cent. Air travel, however, increased 11 per cent to set a new record.

Barge traffic reached an all-time high of 80 billion ton-miles during 1954, but Great Lakes business was 22 per cent below 1953. Petroleum pipe lines traffic increased about 2 per cent to set a new all-time record. The volume of cargo handled by ocean shipping lines in 1954 showed a slight improvement over the previous year.

While a number of important

measures affecting transportation were introduced in the 83rd Congress, only a few reached final enactment. The long controversial St. Lawrence Seaway Project was approved by Congress and the bill signed by President Eisenhower on May 13, 1954. The new law authorizes the United States to participate with Canada in the construction of a 27-foot navigation channel in the International Rapids section of the St. Lawrence River.

A bill to establish the finality of contracts between the government and common carriers of passengers and freight was passed by Congress, but was vetoed by the President. Under the provisions of this measure such contracts would be presumed to be just, reasonable and otherwise lawful and could not be subject to attach for reparation after 180 days, or two years in the case of a national emergency.

The 15 per cent excise tax on the transportation of passengers was reduced to 10 per cent, but no re-

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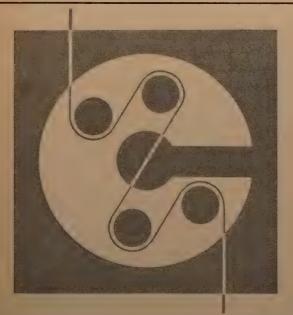
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Some of the more important transportation measures that died with the adjournment of Congress were bills to expedite the granting of rate increases to carriers, to increase the size and weight limits on parcel post packages, to nullify the restrictions imposed by the Interstate Commerce Commission governing the lease and interchange of motor vehicles, and to regulate the water transportation of drybulk commodities.

Unprecedented Decision

An unprecedented decision handed down by the Interstate Commerce Commission in 1954 granted the Rock Island Motor Transit Company, a wholly owned subsidiary of the Chicago, Rock Island and Pacific Railroad, unrestricted operating authority to serve points in the states of Illinois, Iowa and Nebraska. This is the first such authority ever granted to a railowned motor carrier. Previously such carriers have been restricted to providing service auxiliary or supplemental to the service of the owner railroad.

Two investigations instituted by the Commission in 1946 into charges on shipments under 300 pounds by railroads and motor carriers, were discontinued during 1954. In its order the Commission said: "The changes which have occurred in the cost picture, as well as the pattern of rates, have made it impossible to establish a base upon which to predicate findings with respect to rates on this class of traffic."

Early in December the Commission released an order that raised the educational requirements of non-lawyer applicants for admission to practice before that agency. The order, effective May 1, 1955, requires a minimum of two years of college plus technical education or experience the equivalent of an additional two years of college. In exceptional cases where study and training are shown to be the equivalent of the foregoing standards, an applicant may be admitted to the examination.

The experimental plan of transporting first class mail by air, which began in 1953 between Chicago and Washington, D. C., and Chicago

and New York City, was enlarged during 1954. The Civil Aeronautics Board, in February, approved extending this service between Chicago, New York City and Washington, D. C., on the one hand, and Miami, Tampa and Jacksonville, Florida, on the other. Later in the year the service was also placed in effect between 22 west coast cities.

There were two changes in the membership of the 11-man Interstate Commerce Commission during 1954. Commissioner James K. Knudson resigned to enter the practice of law and was replaced by John H. Winchell, formerly chairman of the Colorado Public Utilities Commission. Charles D. Mahaffie, a member since 1930, retired on December 31, 1954, under the compulsory retirement provision of the civil service laws. President Eisenhower early in 1955 nominated Everett Hutchinson of Texas to fill the vacancy. The Commission during the year reorganized and consolidated several bureaus, continuing a streamlining process begun in 1953.

President Eisenhower, in July, established a Cabinet Committee on Transport Policy and Organiza-

tion with Secretary of Commerce Sinclair Weeks as Chairman. This committee was directed to make a comprehensive, up-to-date study of the nation's overall transportation policies and problems and submit its recommendations not later than December 1, 1954. While these recommendations have not as yet been made public, they promise to be one of the most important matters to be discussed in transportation circles and the halls of Congress during 1955.

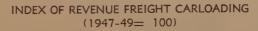
Present economic conditions indicate that the nation's transportation agencies should enjoy a better volume of business during 1955. Sharp competition, however, will exist and rates and service will be an important factor in determining how the traffic will move. As a consequence, the year will probably bring an extension of trailer-on-flatcar service, incentive rates on the more desirable traffic, and further reductions in time schedules. Legislation proposing important changes in laws regulating transportation will be introduced in Congress and will require careful analysis and forceful action by both shippers and carriers.

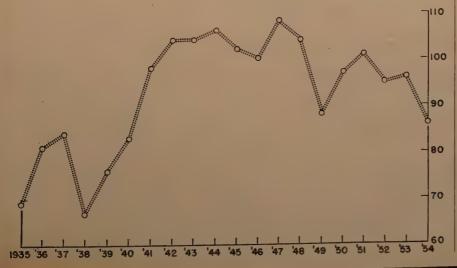
Railroads have poor year;

Revenue down 12 per cent

THE nation's railroads during 1954 transported about 550 billion ton-miles of freight, or approximately 10 per cent less than the previous year's total. Passenger-

miles carried by the railroads totaled 29.4 billion, a drop of 7 per cent. These sizable reductions resulted in a 12 per cent decline in railroad operating revenues and a





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27 per cent drop in net operating income. The rate of return on net investment, which was 4.2 per cent in 1953, was reduced to 3 per cent in 1954.

In a move to attract more freight to their lines, the eastern railroads published a tariff, to become effective August 6, 1954, naming reduced volume rates on less than carload shipments of 5,000 pounds or more. These rates were permitted to go into effect on movements within Central territory, within Trunk Line territory, and between Trunk Line and New England territory. The rates were suspended by the Interstate Commerce Commission on overhead movements between Central territory, on the one hand, and Trunk Line and New England territories, on the other. This suspension case is still pending before the Commission. The establishment of volume or incentive rates on less than carload traffic was also given serious consideration by railroad rate committees in western and southern territories.

Cut Iron And Steel Rates

In another move to recoup traffic, the eastern railroads reduced their iron and steel rates about 15 per cent, effective March 26, 1954. Although these reductions were attacked by several motor carriers groups and the Great Lakes Ship Owners Association, the Interstate Commerce Commission nevertheless allowed them to go into effect. The Commission did, however, institute investigations into all railroad and motor carrier iron and steel rates in Official territory. These investigations have not been concluded.

Trailer - on - flat - car or "Piggy Back" service expanded rapidly during 1954. This comparatively new type of service received a temporary set-back in June when the Interstate Commerce Commission suspended tariffs filed by six eastern railroads naming trailer-on-flat-car rates. The following month, however, the Commission lifted the suspension, thereby allowing the rates to go into effect during its investigation. In another proceeding, which stemmed from a petition filed by the New Haven Railroad for a declaratory order defining whether and to what extent a railroad may transport trailers on flat cars, the Commission held, among other things, that a motor carrier certificate is not required for a railroad to handle highway trailers on flat cars.

Argument before the entire Commission on the 17 complaint cases in which the federal government is seeking a refund on freight charges paid the railroads during World War II, concluded December 2, 1954. The railroads set the amount which the government is trying to collect at between two and three billion dollars. Commission Examiners Marion L. Boat and Howard Hosmer, in their report released in July, 1953, recommended dismissal of the complaints. At the close of the argument in December, Chairman Mitchell of the Commission advised that the proceedings would be taken under advisement. Both shippers and carriers favor legislation to establish the finality of contracts between the government and carriers and prevent the seeking of such reparation awards in the future.

The Commission, in February, 1954, ordered the railroads to establish the modified Rule 10 (mixed carload rule) within Mountain Pacific territory, and from and to that territory, on the one hand, and Western Trunk Line and Southwestern territories, on the other. On movements from and to Mountain Pacific territory, on the one hand, and Official and Southern territories, on the other, the Commission ordered the establishment of the so-called streamlined Rule 10 on eastbound traffic and the modified rule on westbound traffic. This adjustment, which was long advocated by the shippers, became effective August 2, 1954.

Indications that the 10 cents per 100 pounds plus charge for performing pick-up and delivery service, which the eastern railroads put into effect in August, 1953, was on the way out, was noted in December, 1954, when the Delaware, Lackawanna and Western Railroad announced it was excluding itself from application of the charge, effective January 1, 1955. The other major eastern railroads later announced that they were taking similar action effective February 16, 1955.

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Motor carriers volume off:

Net operating income lower

WHILE the 208 billion tonmiles of intercity freight handled by trucks during 1954 was slightly over the previous year, the volume handled by regulated motor carriers was down about 5 per cent. These carriers found their revenues dropping faster their expenses, resulting in lower net operating incomes.

One of the most discussed subjects during 1954 was the \$1.50 surcharge on motor carrier shipments under 5,000 pounds in Central territory, effective May 6, 1952. Interstate Commerce Commission

Examiner Williams, in his report released in February, found the charge unjust and unreasonable and recommended in lieu thereof the establishment of per stop charges for pick-up and delivery service. This recommendation met

with little favor from either ship-

pers or carriers and a flood of ex-

ceptions was filed with the Commission. The motor carriers' request for a rehearing was denied and oral argument in the case was held in June, 1954, in Washington. Early in January, 1955, the Commission issued its order which found the \$1.50 surcharge unjust and unreasonable and ordered its cancellation on or before March 15, 1955. In lieu of the charge, the Commission authorized an increase in the May 5, 1952, rates, of 23 per cent on shipments of less than 2,000 pounds and 71/2 per cent on shipments weighing from 2,000 to 5,000 pounds. Also authorized was a minimum charge based on 100 pounds at the first class rate but not less than \$3 per shipment.

The Illinois Motor Carrier of Property Act, regulating for-hire highway transportation within Illinois, became effective January 1, 1954. A few months later the Illi-



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nois Intrastate Motor Carrier Rate and Tariff Bureau asked the Illinois Commerce Commission for an investigation and order prescribing minimum rates and charges for motor transportation within the state. The Commission agreed to institute the investigation and the initial hearing is set for March 21, 1955, in Springfield, Ill.

A victory for the highway carriers was the ruling of the United States Supreme Court, handed down in December, that the State of Illinois could not revoke or suspend the operating rights of an interstate motor carrier for violations of the state's weight regulations. A law passed by the Illinois General Assembly in 1951 authorized the state to suspend the operating privileges of a motor vehicle operator found guilty of ten weight violations in a single year. The court held that only the Interstate Commerce Commission could revoke or suspend the operating authority of an interstate carrier.

The motor carriers were faced with increased wage awards beginning in 1955. New three-year contracts with drivers in midwestern states provide for a 10-cent hourly wage increase for the first year and 8 cents hourly for each succeeding year. The contracts also call for a boost in mileage rates and in the employers' contributions to the pension and health and welfare funds. To meet these wage awards, proposals are now under consideration for increases in the carriers' rates and charges.

While the motor carriers are optimistic about prospects for 1955, they fully realize that they will face some very stiff competition which will require a careful analysis of their rates and services. The cloud of prospective restrictions in reciprocity, and increases in taxes, continue to hover over the industry. The final results for the carriers in 1955 will depend upon these factors as well as the nation's general economy.

Record traffic, new services

help Midway retain title

RECORD traffic, inauguration of additional direct overseas services, near completion of the initial stage of development of O'Hare Field to permit the start of scheduled passenger operations, and a proposal to give Chicago a helicopter passenger service, marked the year just closed in air transportation.

Chicago Midway Airport again outdistanced all other commercial airports in volume of passenger and plane traffic, retaining its title as the busiest airport in the world. Passengers arriving and departing at Midway totaled 7,935,879, up 11 per cent from 7,151,434 in 1953, while plane arrivals and departures were up 5.3 per cent, or from 331,297 to 348,909.

Scheduled domestic and international airlines accounted for all of the passenger gain. The certificated carriers enplaned and deplaned 7,525,427 passengers last year, an increase of 789,203, or 12 per cent, over 1953. Other passenger traffic,

including charter, private, sightseeing, non-scheduled airline and military, was down one per cent, or 4,758 passengers, to 410,452 last year. The decline reflected primarily diminishing operations by the so-called nonscheduled passenger lines under political, regulatory and competitive pressure. Nonscheduled plane movements of all types increased five per cent to 85,598.

Scheduled plane arrivals and departures showed a gain of five per cent, from 250,246 in 1953 to 263,311 last year, despite the 25-day strike of American Air Lines pilots which forced cancellation of over 3,000 flights. American, one of eight certificated trunk lines serving Chicago, normally operates 170 schedules in and out of the city daily.

Flying time between Chicago and additional points on the airways radiating from the city was clipped as more Super Constellations and DC-7s were placed in scheduled airline operation. This year, the

first turbine-propeller powered transports, presaging the eventual transition to pure jet, will make their appearance at Midway when Capital Airlines introduces the British turbo-prop Viscount on its Chicago-Washington run in April.

Noteworthy in 1954 was the growing recognition of Chicago as an international air terminal and the concomitant explosion of the myth that New York is preferred as a jump-off point for transatlantic flights.

New Flights Added

Up to a year ago last fall, only three air carriers were operating an international service from Chicago: Trans-Canada Air Lines, here since July 1, 1946; Trans World Airlines, which has been providing once-aweek direct service to Europe during the Summer months since 1947, and Air France, which is operating two weekly, round-trip, combination tourist-first class flights since the start of its Chicago-to-Paris service in October, 1953.

Last Spring, Pan American World Airways and British Overseas Airways Corporation (BOAC) came in. Pan American inaugurated its service with three weekly, combination tourist-first class flights to Europe. The response exceeded its most optimistic projections. BOAC operated one flight a week, Chicago to London, from May to October, offering first class service only. The service will be resumed April 7, but will be changed to tourist class, using Boeing Stratocruisers.

Air France is increasing its frequencies to three departures a week this spring, adding a Super Constellation flight.

Midway's heavy traffic load will be lightened somewhat this summer when, it is expected, commercial airline operations will begin at O'Hare Field. An estimated 30 per cent of scheduled passenger flights will be transferred to O'Hare, according to plans. The volume of plane traffic now is nearing the saturation point and congestion on the ground is increasingly hampering operations. O'Hare covers 6,000 acres compared with 620 acres at Midway.

Military traffic continued to dominate at O'Hare in 1954. Plane arrivals and departures soared 30.6





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per cent above 1953 to 117,461, with the military, up 55 per cent, accounting for 72,302, or more than 60 per cent. Passengers arriving and departing on military transports increased 60 per cent to 152,085.

Nonscheduled passenger lines discharged and took on 38,899 more passengers at the field, an increase of 12 per cent, although their number of flights declined seven per cent to 1,639. A five per cent gain to 37,645 was recorded in private plane movements. Private planes are getting bigger, as reflected in the 57 per cent increase to 113,710 in passengers enplaning and deplaning on private aircraft.

At the close of the year, 90 per cent of all construction and improvements needed at O'Hare for the start of regular scheduled airline operations were completed. Installation of control tower equipment and surveillance radar is now in process and should be completed by summer.

Lake Front Port

Meigs Field enjoyed a 24 per cent increase in traffic in 1954. The lake front port, used primarily by private and executive aircraft, handled 46,573 plane arrivals and departures last year as compared with 37,611 in 1953. The rapidly growing ownership and use of planes by individual business men and corporations was reflected in a 26 per cent rise to 25,858 for executive plane landings and takeoffs, which represented better than half the total for the field. Private plane movements showed a gain of only eight per cent to 14,089 last year.

Judging from the 133 per cent increase in trips made by sight seeing planes, seeing Chicago by air was a more popular pastime than ever last year. Midway Airlines also boosted its traffic substantially. The carrier, which provides a shuttle service between Midway airport, Meigs and outlying communities in the Chicago area, operated 388 flights in and out of Meigs, or 55 per cent more than in 1953. Military aircraft comprised the balance of 2,425 plane movements at the lake front airstrip, an increase of 12 per cent. The number of passengers arriving and departing on all aircraft handled at Meigs was up 20 per cent for a combined total of 127,341 last year.

Meigs began night operations on

June 1 and is now open to aircraft until 10 p.m. This will be extended to a 24-hour basis as soon as enough traffic controllers can be obtained to man the traffic control tower. Plans to extend the runway from 2,200 to 2,790 feet were advanced with the appropriation by the city of \$100,000 for the project. Construction, however, must await acquisition of additional land from the Park District Board.

The post office reported a record 26,757,827 pounds of air mail handled at Chicago last year, an increase of 16 per cent above the 23,831,403 pounds in 1953. Volume handled by Helicopter Air Service between the main post office and Midway, and between the airport

and outlying communities, increased five per cent or from 1,788,712 to 1,885,850 pounds.

Freight volume increased along with mail and passenger traffic. The scheduled air lines flew 52,774,571 pounds of freight last year into Midway Airport and flew out 62,313,488 pounds for a total of 115,088,059. Volume of air freight handled at Midway in 1953 was 112,836,286 of which 53,215,640 w as inbound and 59,620,646 pounds was outbound freight. Air freight handled at O'Hare added an additional 29,946,553 pounds to the 1954 total. Comparative figures for O'Hare for 1953 are not available.

Cutback in steel causes dip

in waterway traffic

CURTAILED steel activity during the greater part of 1954 caused a sizable dip in Great Lakes shipping last year and was reflected in freight tonnage handled both at Chicago docks and along the Illinois Waterway.

The cutback in steel production resulted in a 36 per cent drop in ore shipments and a 14 per cent decline in coal carried on the Great Lakes, the full impact of which was felt by the Port of Chicago. Freight volume handled by the port, which includes Calumet and Chicago harbors, the Sanitary Canal and south branch of the Cal-Sag channel, slid 21 per cent from 38,281,685 tons in 1953 to 30,242,000 last year.

The cutback also knocked 1,-277,414 tons, or 8.5 per cent, from the record 20,077,414 tons of freight barged on the Illinois Waterway in 1953. The estimated total of 18,500,000 tons for 1954 was, nevertheless, second highest since completion of the Great Lakes-to-Gulf inland waterway in 1933. The Illinois Waterway connects the Mississippi River with Lake Michigan at Chicago.

Freight moving through the Calumet-Sag channel was down 10 per cent from 3,575,688 tons in 1953 to an estimated 3,250,000 last year, according to figures compiled by the Chicago District U. S. Army Corps of Engineers.

Traffic on the nation's 28,383-mile inland waterway system, however, increased 16 per cent to 380 million tons in 1954, and more towing vessels, barges, scows and other freight carriers operated on the rivers and canals than ever before.

Cite Growth Factors

For the past ten years, barge operators have been getting an increasing share of the nation's freight business. Among factors cited by the American Waterways Operators, Inc., for the gain are the growing number of manufacturers turning to low-cost water transportation to offset rising wages and climbing prices for raw materials and fuel, and the hundreds of new industries, power plants and mass-distribution warehouses locating on the inland waterways. A survey made by the opthe first nine erators during months of 1954 listed 265 waterside sites selected by new industries, power plants and warehouses. This compared with 260 listed during the corresponding 1953 period.

Extensive river, harbor and terminal improvements also have helped to swell river traffic as low-cost inland waterway transportation opened new markets and new sources of raw materials. Florida



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fertilizer materials, for example, are now reaching markets in the Illinois and Mississippi Valley via the inland waterways.

This year, it is hoped, work will start on the Cal-Sag project, which has been awaiting federal appropriations since 1946. President Eisenhower included \$4 million for the Cal-Sag in his budget proposal for fiscal 1956. The funds would permit the U.S. Army Corps of Engineers to begin widening the westerly three miles of the 16.2 mile Cal-Sag and to start alterations to certain railroad bridges spanning the channel. The project provides for widening the Cal-Sag from its present usable width of 60 feet to 225 feet, in addition to other improvements to facilitate barge movements between the Illinois Waterway and Lake Michigan.

New Harbor Approved

Progress was made on another front in the long-range plan to develop Chicago's harbor and terminal facilities. The Chicago Regional Port District was given the green light on a proposed \$22.5 million plan for construction of harbor facilities at Lake Calumet.

The first phase of this development calls for construction of two grain elevators with a capacity of $6\frac{1}{2}$ million bushels each; four transit sheds with 2,500 lineal feet of dock served by double railroad tracks and with 240,000 square feet of cargo assembly space; a bulk dock area with access to a 1,000-foot long wharf equipped with an 80-ton electrically operated fixed crane; a maintenance equipment depot, and office space for U. S. customs.

Terminal facilities too are being improved in Chicago. North Pier Terminal Company last year completed construction of a new riverrail-truck terminal and warehouse on the Chicago Sanitary and Ship Canal at Western Ayenue.

With the passage of the St. Lawrence Seaway bill, last spring, Chicago's prospects for becoming a great world port sitting astride two inland waterways and tapping the commerce from across the seas, took a giant stride toward realization.

Chicago produced 21% of nation's steel



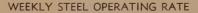
Molten steel discharging into ladle at Inland Steel Company

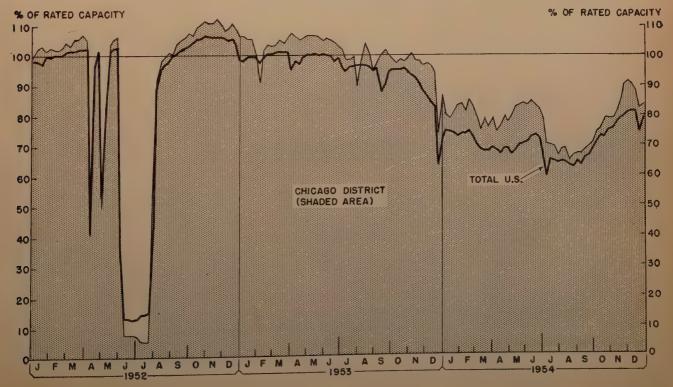
HE Chicago district accomplished a 321,000-ton net increase in its steel-making capacity in 1954, tightening its grip on its claim to top position steel center of the United States. Although this leadership was not in jeopardy last year, little if any gain in capacity had been anticipated because no new furnaces were being

built. The boost, which added 1.3 per cent to Chicago area capacity compared with a national gain of 1.2 per cent, came from up-rating existing facilities by the higher efficiencies derived from improved steelmaking methods.

The 1954 increase in Chicago capacity was the smallest for any of the past five years, when the major

expansion program got under way. During this period, steel-making capacity here moved up almost 34 per cent. Chicago's rise materially outpaced the national increase of 26 per cent in the same five years. Put another way, Chicago now accounts for 19.4 per cent of national capacity, whereas five years ago it could claim only 18.4 per cent.







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Vigor of the Chicago district demand was demonstrated forcefully in 1954 in steel production performance. With only 19.4 per cent of the country's capacity, Chicago turned out 20.9 per cent of total steel output. In doing this, Chicago employed its facilities at 76.5 per cent of capacity, compared with 71 per cent for the nation.

For the present it appears that Chicago and the nation are approaching the end of the expansion program in so far as ingot producing facilities are concerned. Chicago has no furnace construction under way and industry activity in this direction is limited. Expansion and modernization in 1955 will be confined largely to facilities for producing finished steel products.

Output Drops

Steel production in the Chicago district in 1954 was 18,446,886 net tons and for the country output was 88,311,652 tons. Chicago output dropped 14.6 per cent from the preceding year, while the nation's production dropped 20.8 per cent. Chicago area production was the third largest in history, being exceeded only in the record years 1953 and 1951. The steel strike of 1952 removed that year from contention. United States ingot production was eighth largest for all time, being bested by record 1953 and 1951, 1950, 1952, 1944, 1943 and 1948 in that order.

No newcomers joined the ranks of Chicago steelmakers in 1954. There had been two in 1952, the first in many years. However, there is a prospect of a new one in the future. A company which once made steel here, but which had not operated its facilities for a number of years, dismantled its plant in 1954

Only two companies in the Chicago district produced more steel in 1954 than they did in 1953, achieving this by slim margins in a year which was far from propitious for breaking records. Both companies had previously made substantial increases in capacity.

During 1954 only three companies effected any increase in steel-making capacity. The expansion of one was significant; increases for the other two were minor. In all instances the increases were achieved through improvements of facilities

PIG IRON PRODUCTION

(Net Tons)

	2001		- 1955	
Yeu	Chicago	U.S.	Chicago	U.S.
January	1,166,628	5,579,513	1,318,322	6 564 909
rebluary	1,037,188	4,810,554	1,160,168	6,564,383
March	1,053,638	4,959,303		5,881,518
April	980,163		1,373,950	6,677,361
May	900,103	4,502,566	1,285,336	6,230,641
Time	1,033,784	4,615,596	1,370,356	6,587,115
June	1,027,541	3,724,150	1.328.571	6,372,531
July	. 1,009,893	4,626,184	1,327,160	6,516,487
August September October	964,661	4.577.645	1,331,731	6,471,554
September	913,776	4,461,822	1.324.279	
October	1,043,883	4.986.527	/	6,202,019
November	1,109,111	, ,	1,318,051	6,497,710
		5,257,744	1,264,102	6,026,600
December	. 1,205,811	5,586,513	1,220,345	5,778,840
Total	12,546,077	58.688,117	15,622,371	75,842,759

Source: American Iron and Steel Institute.

and practices and not by building of new furnaces.

Just as the expansion in ingotmaking facilities slowed down last year, programs for expanding rolling mill and other finishing departments tapered off too. A good portion of this was work that was initiated in 1953. Expansion and modernization programs born of national defense needs have now been concluded. A limited volume of construction is underway or scheduled in the Chicago area in 1955, but it can be attributed either to the intent of steelmakers to round out their facilities to make them more competitive, or to programs to keep mills and equipment fully modern.

Outlook Promising

The steel production outlook for 1955 is promising. At the start of 1954 demand was tapering off and consumers were disposed toward inventory reduction. In late weeks of 1954 and early weeks of 1955, the reverse was true. The buying trend is upward and some inventory building is under way. A strong first half seems assured as automobile makers produce new models at a record rate. But this first half strength could be followed by weakness in the second half if the sales of new autos falter.

Despite the notable increase in Chicago district steelmaking capacity in recent years, consumption has increased at a faster pace and Chicago continues to be a minus area—that is, more steel is consumed than is made here. Chicago mills profit from this circumstance when steel is readily available because con-

sumers order their requirements close to home to take advantage of the lowest possible transportation charges. That was very evident in 1954, and undoubtedly will be the pattern in 1955. Free use of freight absorption by out-of-the-district mills still leaves local steelmakers in the favored position.

Adequate Capacity

If the world remains at peace the United States appears to have adequate steelmaking capacity for the next several years. Barring some international crisis or pushup in the defense program it is likely that consumption will be allowed to catch up with capacity. In such an atmosphere, it will be surprising if some of the country's high-cost and marginal or obsolete capacity isn't abandoned.

Some was scrapped in the past two years but precaution has served as a brake. Being fully modern, the Chicago district stands to lose very little if any ingot capacity. With the major portion of the abandonment elsewhere, Chicago's proportion of national total should rise.

Average weekly ingot production rate for the Chicago district in 1954 was 78.2 per cent, compared with 70.6 per cent for the United States. Corresponding figures were 100.9 and 95.6, respectively, in 1953; 86.7 and 84.8 in 1952; 104.3 and 101.7 in 1951; and 100.1 and 97.0 in 1950. This index is computed by Steel Magazine at the beginning of each week as the ratio of scheduled production to capacity.

A tabulation of weekly operating rates for the Chicago district and the United States during 1954 follows:

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STEEL INGOT PRODUCTION

1954

Per Cent of Rated Capacity								
Week	Chi-		Week	Chi-				
Ended	cago	U.S.	Ended	cago	U.S.			
Jan. 3	86.5	71.5	July 4	79.0	67.0			
Jan. 10	80.5	75.0	July 11	70.5	59.5			
Jan. 17	78.5	74.5	July 18	70.0	65.0			
Jan. 24	81.0	74.0	July 25	69.5	64.5			
Jan. 31	83.5	73.0	Aug. 1	66.5	64.0			
Feb. 7	84.0	74.0	Aug. 8	68.5	64.5			
Feb. 14	81.5	74.0	Aug. 15	69.0	64.0			
Feb. 21	85.5	74.5	Aug. 22	65.0	63.0			
Feb. 28	83.0	72.5	Aug. 29	66.5	62.5			
Mar. 7	79.5	70.0	Sept. 5	67.0	64.5			
Mar. 14	75.0	68.5	Sept. 12	67.0	63.5			
Mar. 21	79.0	68.0	Sept. 19	68.5	66.0			
Mar. 28	76.5	68.0	Sept. 26	69.5	66.5			
Apr. 4	79.0	69.0	Oct, 3	71.0	68.5			
Apr. 11	74.5	68.0	Oct. 10	74.5	71.0			
Apr. 18	76.5	67.0	Oct. 17	76.0	73.5			
Apr. 25	79.5	69.0	Oct. 24	79.5	73.0			
May 2	78.0	69.0	Oct. 31	79.0	75.0			
May 9	79.5	67.0	Nov. 7	79.0	75.5			
May 16	83.0	68.0	Nov. 14	81.0	77.5			
May 23	83.5	70.0	Nov. 21	85.5	79.0			
May 30	84.0	70.5	Nov. 28	90.0	79.5			
June 6	83.5	71.0	Dec. 5	91.0	81.0			
June 13	85.0	73.0	Dec. 12	90.5	81.5			
June 20		73.5	Dec. 19	87.5	81.5			
June 27	82.5	73.0	Dec. 26	82.5	74.5			
Year's A	verage	:		78.2	70.6			

Source: STEEL Magazine.

Highest rate for the Chicago district was 91 per cent in the week ended December 5. Best for the country was 81.5 per cent in the two consecutive weeks ended December 12 and December 19. Lowest in Chicago was 65 per cent in the week ended July 11.

Of special interest is the fact that in no year during the last 15 at least has the steelmaking performance of the Chicago district exceeded the national rate by as wide a margin as the 7.6 points achieved last year. Runners-up for this distinction were 1953 with 5.3 points, 1954 with 4.8 points, 1942 with 4.7 points, 1941 with 3.6 points and 1950 with 3.1 points. Usually the margin is only a point or so. Average over the 15 years is 2.7 points, and in only two years -1947and 1948 - has the national steelmaking rate averaged higher than Chicago and then only by an exceedingly narrow margin.

Steel ingot production in the United States in 1954 totalling 88,311,652 net tons fell 23,298,067 tons, or 20.8 per cent, from the 1953 all-time record of 111,609,719 tons. This output was the eighth best in history. Aside from 1953, the other years which bested 1954 were: 1951 with 105,199,848 tons, 1950 with 96,836,075, 1952 with 93,168,039, 1944 with 89,641,600, 1943 with 88,836,512 and 1948 with 88,640,470 tons. The 1954 output was only 1.3 million tons less than the World War peak year of 1944.

The national steelmaking operating rate of 71 per cent of capacity last year compared with 94.9 per cent in record-breaking 1953, 85.8 in 1952, 100.9 in 1951, and 96.9 per cent in 1950.

Chicago district steelmaking capacity has expanded to 24,459,700 tons and United States capacity to 125,828,310 tons as of January 1, 1955. Chicago's 1954 increase was 321,000 tons, or 1.3 per cent, and for the country, 1,497,900 tons, or 1.2 per cent. During 1953, Chicago expansion was 1,822,100 tons, or 8.2 per cent, and for the United States it was 6,782,940 tons, or 5.8 per cent. In 1952, the figures had been 2,552,840 tons, or 12.9 per cent, in Chicago, and 8,959,800 tons, or 8.26 per cent, in the country.

Steelmaking Capacity

Steelmaking capacity of the Chicago district as of January 1, 1955, consists of 22,002,000 tons of open hearth, 500,000 tons of bessemer and 1,957,700 tons of electric furnace. Open hearth capacity represents a gain of 321,000 tons. Bessemer and electric furnace capacity was unchanged during the year.

Present annual ingot capacity of 125.8 million tons represents an increase of nearly 34 millions tons, or about 37 per cent, in the nine post World War II years, according to the American Iron and Steel Institute. And since 1939, ingot capacity has been increased 44 million tons, or 54 per cent.

In 1954, according to the Institute, iron and steel companies of the United States spent \$680 million in improving and expanding their plants. This was in addition to the \$5.6 billion which they had already put into new equipment and construction during the eight postwar years, 1946 through 1953.

The nine-year outlay, totaling \$6.28 billion, will be augmented by expenditures which may run to \$695 million in 1955, according to advance estimates reported by the companies. The majority of steel producers have plans for capital improvements and expansion.

Many new facilities came into operation during 1954. These in-

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cluded several new electric steelmaking furnaces, two new blast furnaces, a new continuous hot sheet and strip mill, new annealing facilities, a new cold rolling strip mill, replacement of old by-product coke ovens, and much other equip-

With the construction and agricultural industries creating heavy demands for galvanized sheets, some companies have been investing in continuous galvanizing equipment. There are approximately 22 continuous hot dip galvanizing lines in operation. Five more are reported being built and nine are being planned.

This year, the Institute reports, one company plans to spend about \$50 million for new bar mill equipment, pipemaking facilities, wire drawing equipment and a continuous galvanizing line. Two other companies plan to increase their pipe production facilities. Another will spend heavily on its cold-rolled strip department. New coke ovens, new tin plate equipment and structural steel mills are among the many projects.

Construction Costs

The cost of constructing new facilities and modernizing existing equipment remains high. This is reflected in increased financial requirements of the companies. For a group of 44 companies, accounting for around 90 per cent of the nation's total ingot capacity, the long-term debt increased approximately 134 per cent from end of 1945 to end of 1953 — from \$472 million to more than \$1.1 billion. In the same interval, combined capital investment went up from \$4.3 billion to \$7.7 billion.

Steelmakers found 1954 a disappointing year. They did not produce and sell the volume of steel hoped for. For the first time since 1949 there was a buyers' market in which mills found it necessary to compete for consumers' business.

The year started with demand declining and the pattern continued until early fall when the automotive industry came back into the market in a big way and reversed the trend.

More steel was consumed in 1954 than was produced. It is estimated that upwards of six million tons of

(Continued on page 182)



A mass spectrometer at Standard Oil Company, Whiting, Indiana

Demand for gasoline, heating oils up

HE Chicago market for petroleum products proved far stronger than—the national market in 1954. While the total national demand for gasoline, oils and distillates inched up 1 per cent to give the petroleum industry its twelfth consecutive yearly gain, demand in the Chicago area rose 6 per cent above 1953.

Expansion and improvement of refining and other facilities in Chicago was substantially above the national rate, and the capital outlays by oil companies exceeded those of any other single industry in the area.

Competition at the retail level sharpened as 200 new service stations opened for business, upping the total in the five-county Chicago metropolitan region to 3,800, but there were more customers also. Passenger car registrations in the City of Chicago alone increased 5 per cent to 792,940 in 1954, while motor truck and motorcycle ownership showed little change. Old Dobbin was not eliminated entirely

from the city's thoroughfares, however, and 93 horse drawn vehicles were registered.

Increased demand for motor fuel and heating oil enabled the petroleum industry to record a small gain in total demand for its products in 1954 despite the slowing down of industrial activity and with it the demand for residuals and industrial distillates.

Industrial Distillates

In the Chicago area, estimated demand for industrial distillates was approximately 550 million gallons, or about the same as in 1953. Residual demand, too, remained virtually unchanged at 880 million gallons.

Gasoline sales in Chicago increased 10 per cent from 1½ billion gallons in 1953 to 1.66 billion last year, while demand for heating oil, reflecting primarily an increase in the number of home oil burners rather than colder weather, showed a gain of 8 per cent to 700 million

gallons. Chicago experienced 5,541 degree days in 1954, or 80 more than in 1953, but still comfortably under the 6,334 considered normal for Chicago by the U. S. Weather Bureau in any one year. Degree days help oil distributors gage consumer demand for heating fuels by showing by how many degrees each day misses an average mean temperature of 65. A temperature of 20 below zero, such as hit Chicago earlier this year, would add 85 degree days to the total for the year.

Cash sales rung up by Chicago area service stations were 2.34 cents higher per gallon as the price of gasoline, including taxes, rose to an average 29.9 cents a gallon.

Refining capacity was stepped up sharply, stimulated by growing demand and the need of an adequate security "cushion" in the event of a national emergency. Approximately \$74 million was earmarked by the petroleum industry for plant expansion and improvement in Chicago in 1954. In 1953 the total for the chemical and petroleum in-



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dustries combined was \$16,000,000, or less than one-fourth the total last year for the oil industry alone.

Sinclair Oil Company, which in August moved into its new \$6 million office building on Wacker Drive, added a catalytic cracking unit and a catalytic reforming unit to its refinery at East Chicago, Ind. Construction also was completed on a two-story, 25,000 square foot building at the plant for miscellaneous use.

Cities Service

Major additions at Cities Service Oil Company's refinery in East Chicago included a crude topping unit with a capacity of over 30,000 barrels of charging stock daily, and a catalytic reforming unit with a capacity of 12,000 barrels daily. Under a multi-million dollar program of expansion and modernization begun in 1953, delayed coking units at the refinery have been increased to double their former capacity.

Standard Oil Company (Indiana) is adding a crude distillation unit, a naphtha debutanizer vapor recovery unit and treating and blending facilities, at Whiting. Research activities were consolidated with the transfer of the engineering research department from Chicago to a new 58,000 square foot laboratory addition to the research center in Whiting. In Chicago, distribution facilities were expanded. The company took over leasehold rights to a 30-acre oil products river terminal, formerly operated by Arrow Petroleum Company, on the western edge of the city.

At Hammond, Ind., Standard and Sinclair together are building one of the largest ammonia plants in the Middle West. The project is part of a joint high nitrogen fertilizer program and will give Chicago the largest plant in the country producing anhydrous ammonia from by-product hydrogen. The plant also will be able to produce solutions of ammonia and ammonium nitrate.

Texas Company continued to build up refining capacity at Lockport under an expansion program initiated in 1953 which, when completed, will double capacity there. Pure Oil Company established its first Chicago manufacturing operation with the purchase of Globe



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510 First National Bldg. DAVENPORT, IOWA 6-2527 Teletype DV 84 Oil and Refining Company's refinery at Lemont. Pure Oil also completed a new one-story, 14,000-square foot building at its research and development laboratories at Crystal Lake. The new building houses the laboratory's product development division and machine shop.

New in Chicago, Prime Oil, a subsidiary of Wood River Oil & Refining Company of Wichita, Kansas, began operations at a refinery in Calumet City. Another newcomer was Clark Oil Refining Corporation, formerly Martin Oil, whose Petco division refinery is located in Blue Island.

Figures giving total refining capacity at the close of the year have not yet been compiled by the Bureal of Mines, but at the beginning of 1954, Chicago area refineries had a capacity of 529,600 barrels a day, up 9 per cent from the previous year compared with a 5 per cent increase shown in the total for the nation.

Distribution Center

Chicago is not only the largest single metropolitan market for petroleum products but the leading distribution center in the world. More gasoline comes into Chicago for redistribution than to any other market anywhere.

The 16-inch, \$15,500,000 Wolverine Pipeline from Chicago to Detroit and Toledo was completed and placed in full scale operation during 1954. Begun in 1953, it is a joint venture of Cities Service, Texas and Shell Oil.

The \$15 million Badger Pipeline, on which construction began last spring, awaits only the completion of remaining terminal facilities along its 215-mile, Chicago-to-Madison, Wis., route before going into full operation. Jointly owned by Cities Service, Sinclair Pipe Line Company, Texas and Pure Oil, the 12-inch line will carry finished petroleum products into Wisconsin for the first time by pipeline.

Total demand for all oils in 1955 is expected to rise to 8,460,000 barrels daily as compared with 8,066,000 last year, according to industry forecasts. Domestic demand is put at 8,180,000 barrels, or 5.3 per cent above 1954, with exports accounting for 280,000 barrels daily.



Commonwealth Edison's new Will County Station

Expansion and modernization highlight year for utilities

HICAGO utilities continued their expansion and modernization programs during the year and in general experienced a leveling off of business.

Commonwealth Edison spent \$125 million during 1954 and brought its total generating capacity to 3,422,000 kilowatts. The company plans further expansion over the next four years. It will spend \$420 million and increase its generating capacity to 4,272,000 kilowatts. About \$125 million will be spent in 1955.

Peoples Gas Expansion

The Peoples Gas Light and Coke Company and its subsidiary companies will invest \$61 million in 1955 for construction projects to maintain and improve the system's natural gas supply. Peoples Gas extended gas heating service to an additional 40,000 homes in 1954. A subsidiary, Texas Illinois Nat-

ural Gas Pipeline Company, completed a \$33 million expansion program and increased its daily transmission capacity from 385 million to more than 500 million cubic fact.

The Chicago Transit Authority completed modernization of its surface passenger equipment and advanced modernization of its rapid transit equipment to almost 80 per cent of completion. CTA revenue for the year amounted to \$121 million, down 2.5 per cent. Passenger volume declined 6.6 per cent. The rate of decline in passenger volume, however, was less severe for Chicago than in the same industry in other cities. For 1955, a further lessening in the Chicago rate of decline is anticipated.

Commonwealth Edison's sales of electricity fell just short of the record 15.6 billion kilowatt hours sold in 1953. A drop of 5 per cent in industrial use of electricity accounted for the decline. Its effect

on total consumption was softened by increases in use of electricity by residential and commercial consumers.

The additional gas supply resulting from the expansion program of Peoples Gas enabled it to furnish Chicago with new peak-day sendouts of gas. The all-time record sendout of 421 million cubic feet reached on January 12, 1954 was surpassed on January 27, 1955 by 63 million cubic feet.

Phones Added

Illinois Bell Telephone Company hit a new high in operating revenues. It took in \$347.8 million, an increase of 6.4 per cent. Operating expenses for the year amounted to \$307.5 million, an increase of 6.2 per cent.

Illinois Bell added 94,706 phones to the area it serves during the year, it was the second largest addition for a single year in the company's

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This brought the total plant investment to \$891,549,302 or \$300 per telephone.

Individual accounts of the progress of each major utility follow:

Commonwealth Edison sales off slightly from record volume

A CONTINUING rise in use of electricity by residential and commercial consumers in Chicago last year just about offset the drop in industrial use. Commonwealth Edison Company reported that sales in 1954 were within 0.2 of one per cent of the record 15.6 billion kilowatt hours sold in 1953.

Residential use of electricity was up 9.5 per cent, commercial use was up 6.3 per cent, and industrial use was down 5.2 per cent as compared with 1953.

The company continued its expansion program during the year. New construction brought its total generating capacity to 3,422,000 kilowatts at the end of 1954 as compared with 3,272,000 kilowatts at the end of 1958. By the end of 1958, generating capacity is expected to be 4,272,000 kilowatts. This compares with about 2,300,000 kilowatts at the end of World War II.

To do this Commonwealth Edison will spend about \$420,000,000 in the four years 1955 through 1958. The estimated spending by years will be \$125,000,000 in 1955; \$90,000,000 in 1956; \$105,000,000 in 1957 and \$100,000,000 in 1958. The estimate of \$125,000,000 for 1955 is approximately the same as the total spent in 1954 for new construction.

Scheduled for completion in 1955 is the company's Will County station. It will go into service sometime during the spring and will have an initial generating capacity of 160,000 kilowatts. Later in the year another 160,000 kilowatts will be added. Construction on this station started in 1952. It is located on the Chicago Sanitary and Ship Canal near Lemont, Illinois.

Replacement of certain parts of older equipment at two other sta-

tions, Waukegan and Chicago's Northwest station, is also scheduled. These replacements will increase the net capacity of the system by 8,000 and 35,000 kilowatts, respectively. Another unit now under construction and scheduled for completion in 1956 is a 207,000 kilowatt addition for the State Line station.

Engineering is also underway for a modern unit of possibly 205,-000 kilowatts capacity at the Crawford station in Chicago to replace 60,000 kilowatts of capacity installed about 1925. If the Crawford unit is authorized the total scheduled generating capacity increase by the end of 1958 will be 960,000 kilowatts. The program also contemplates that another 110,000 kilowatts of older Crawford capacity may be removed in 1958 to make room for a second replacement unit at that station. Also in the 1958 program is a 250,-000 kilowatt unit for the company's new Will County station.

Two Major Disruptions

During 1954 there were two major service disruptions to Commonwealth's system. On October 11 a six-inch rainfall in a 24-hour period caused the overflow of the Sanitary District Canal and flooding of the company's Crawford and Fisk generating stations. About 800,000 kilowatts of generating capacity was immobilized for four days. During that time some 3,000 of the firm's largest customers voluntarily curtailed their use of electricity. Commonwealth purchased through interconnecting lines with neighboring utilities, the necessary kilowatts to continue service to the majority of its customers.

On December 19 the low pressure turbine of a 160,000 kilowatt generating unit at the Ridgeland

station exploded. Flying pieces of metal caused damage to three other generating units, forcing a temporary complete loss of the station's 640,000 kilowatts. Again large users of electricity were asked to curtail some of their usage and again purchases of electricity were made from neighboring utilities. A generating capacity of 480,000 kilowatts was restored at the Ridgeland station within 50 hours after the explosion. The damaged unit is expected to be returned to service before the end of 1955.

During 1954 Commonwealth Edison continued its plan to divorce itself from the gas business. The culmination of this plan came early in 1955. As of January 26, 1955, the company received final approval for distributing its 4,982, 115 share holding of common stock of Northern Illinois Gas Company

to Edison stock holders. The move was made because the management of Commonwealth Edison felt that the technical and operating problems of the two businesses involve such differences that both can operate and progress better as separate units.

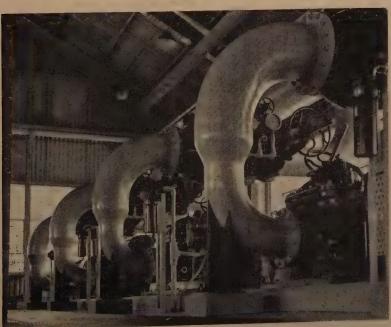
One of the first programs being inaugurated by Commonwealth Edison in its concentration on the electricity business is a home rewiring program aimed at more than 600,000 poorly wired homes in the Chicago area. The program includes an offer by the utility to absorb certain wiring costs ordinarily involved in the installation of 240-volt service. The purpose of the program is to make possible the use in these dwellings of more electrical appliances, which in turn will increase the consumption of electricity.

Peoples Gas continues expansion, more scheduled for this year

THE Peoples Gas Light and Coke Company and its subsidiary companies will invest approximately \$61,000,000 in 1955 for construction projects to maintain and improve the system's natural gas supply.

Much has been accomplished in the continuing program to make a greater gas supply available for increasing customer needs. Texas Illinois Natural Gas Pipeline Company, newest of the system's two long distance natural gas transmission companies, has completed its expansion program to give the pipelines serving the Chicago region a combined daily capacity of 1,041,000,000 cubic feet.

The system is providing terminal storage for the service area as a



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result of the development of the underground storage field project at Herscher, Illinois.

Additional gas supply realized as a result of the expansion program has enabled Peoples Gas to furnish its customers in Chicago with new peak-day sendout volumes. Three successive peak-day sendouts were established during the week ended January 29, 1955. On January 27 the all-time record sendout of 484 million cubic feet was reached, surpassing the previous high, set on January 12, 1954, by 63 million cubic feet.

The additional supply of gas has brought a major increase in the number of residences in the market area that are heating with gas. Within Chicago itself, Peoples Gas extended gas heating service to an additional 40,000 homes in 1954. The total number of Chicago homes heating with gas was 173,000 at the year's end.

Early in 1954 a \$33,000,000 expansion project was completed by the Texas Illinois subsidiary which increased that pipeline's daily transmission capacity from 385 million to more than 500 million cubic feet. Texas Illinois is supplied by Gulf Coast fields.

Underground Storage

A project of great importance to the system's supply is the underground storage field of Natural Gas Storage Company of Illinois, a subsidiary, near Herscher, in western Kankakee county. Facilities for the initial stage of the storage field's operation were completed at a cost of \$16,880,000, and commercial operation was begun in the 1953-1954 heating season.

The storage company plans to increase the storage facilities in 1955 to provide withdrawal capacity of 430 million cubic feet of natural gas on days of maximum demand, thereby increasing nearly three-fold the storage field's present peak-day deliverability of 150 million cubic feet. An application has been made for Federal Power Commission approval of this project, which will involve an expenditure of \$7,500,000.

The storage field expansion project will entail the construction of 31 miles of 36 inch pipeline to transport the stored gas from the Herscher project to a point on the

Texas Illinois pipeline near Joliet, Illinois; a minor increase in the stored gas to be retained in the reservoir for cushion purposes; and the installation of a supplementary gathering system to recover and reinject the relatively minor quantities of gas leaking to the surface.

Efforts to locate the source of the present leakage have not been completely successful. Search is continuing for the cause, which independent consultants believe is of a mechanical nature. All tests thus far have indicated that there are no fundamental faults or fractures in the reservoir structure itself.

A temporary pilot gathering system to recover the escaping gas has been operating at the storage field since early January. It has demonstrated that such gas can be recaptured and reinjected into the reservoir and continued development of the storage field can proceed whether or not all small leaks have been remedied.

One of the system's needs is to obtain additional gas reserves for Natural Gas Pipeline Company of America, a subsidiary whose dual transmission lines are supplied in the Panhandle and Guymon-Hugoton fields. Federal Power Commission authorization has been asked to extend Natural Gas Pipeline's system from its southern terminal near Fritch, Texas, southeasterly through Oklahoma and terminating in Wise County, Texas. In addition, the pipeline company proposes to build gathering facilities in Jack and Wise Counties, Texas, and to revise certain of its by-product and gathering facilities in the West Panhandle field. It is estimated that the extension and other related facilities will cost approximately \$32,000,000.

Further Explorations

Two subsidiaries are engaged in explorations for natural gas as a part of the system program to maintain an adequate supply of gas for the market area. Peoples Production Company, wholly-owned subsidiary of Peoples Gas, in conjunction with Sinclair Oil and Gas Company, Sohio Petroleum Company and El Paso Natural Gas Company, has purchased from Louisiana a lease involving about 2,000 acres offshore. This group was successful in bidding for three leases

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for 15,000 acres offered by the federal government for natural gas and oil in federal waters off Louisiana. The three tracts involved a bonus bid of more than \$12,000,000.

Texoma Production Company, a wholly-owned subsidiary of Natural Gas Pipeline, has acquired oil and gas leases covering 116,022 unproven acres in Texas, Oklahoma, Kansas and Colorado and is participating with El Paso Natural Gas Company in drilling a well offshore from Matagorda Peninsula in Matagorda County, Texas.

James F. Oates, Jr., chairman of Peoples Gas, explained that the opinion given by the Supreme Court of the United States last June in the Phillips Petroleum case is a matter of importance that is engaging the closest attention of the Peoples Gas system.

The decision is of concern to the Chicago utility and its subsidiaries, Oates said, because it has brought under Federal Power Commission jurisdiction independent producers of natural gas who sell to interstate pipelines. As a consequence, certain producers are trying to free themselves from existing contracts to deliver natural gas for transmission to markets such as Chicago.

Six Million In Area

The company points out that Peoples Gas supplies gas to almost one million users in Chicago, including almost every family and thousands of business and industrial firms. Other utility companies in a six-state area rely on the company's pipeline subsidiaries for gas. In all a population of more than six million depends on the Peoples Gas system.

Oates explained that the system regards its responsibility to deliver gas at a fair cost as its primary obligation. When the question arises whether the highly competitive production phase of the natural gas industry should be under federal regulation, as the transmission end has been since 1938, the system insists that it intends to make every reasonable effort to provide an adequate gas supply at a fair cost, whether or not the Natural Gas Act is amended (to exclude producers from regulation), as is desired by the producers.

The Peoples Gas system has been

in the production field for some time, and just recently has been expanding such operations markedly.

Successful discovery and development of natural gas and oil fields is costly and difficult. For each success there are eight failures on the average. Thus those who risk great sums in this way expect to be well repaid.

The Peoples Gas system agrees with the fundamental belief that in the long run the public will be best served by keeping the production phase of the business free from federal regulation, Oates explained. It adheres to the belief that, as a matter of economic principle, the production of such natural resources as natural gas, which involves great business risk, should be free from federal regulation.

But Peoples Gas and its subsidiary companies, he emphasized, intend to make every reasonable effort to obtain adequate supplies of natural gas at the lowest possible cost whether or not natural gas production is kept under federal regulation.

Illinois Bell Telephone Company sets several new records

LLINOIS Bell Telephone Company hit several new highs as a result of its 1954 operations. It had a record number of phones in service. It reached a new peak in operating revenues and showed the second largest increase in the number of phones added to its system for a single year.

Illinois Bell had almost 3 million telephones in service at the end of 1954. The net increase for the year was 94,706, bringing the year-end total to 2,971,795. The top year was in 1953 when 100,657 phones were added.

The company handled a record number of calls per day. They amounted to 12,479,621, an increase of 350,000 over last year but for the individual phone the number remained at 4.3 calls per day. Of the almost 3 million phones in service, 1,974,583 were residential and 997,212 were business phones. Of the 94,000 phones installed during the year over 74,000 were installed in homes.

Operating revenues for the Illinois Bell System amounted to \$347,796,654, an increase of 6.4 per cent. Operating expenses increased 6.2 per cent going from \$289,437,198 to \$307,533,850.

Almost 80 per cent of the total number of phones in service were dial phones. Over 78 per cent of the households in the area served by Illinois Bell had at least one phone. About 13 per cent of these customers had one or more phone extensions.

During the year the company

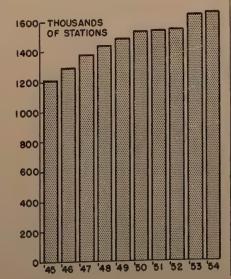
spent another 100 million dollars on expansion and improvement of services. This brings the total plant investment to \$891,549,302 or approximately \$300 per telephone.

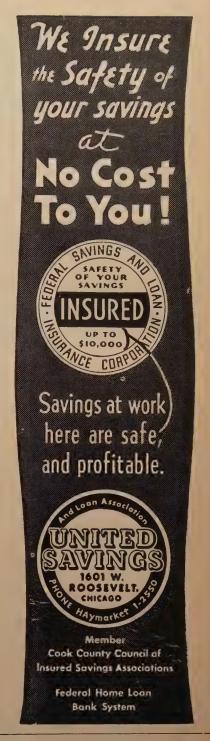
Private mobile radio systems showed big increases during the year. Base radio stations in operation numbered 165 at the end of 1954, an increase of 114. The number of private mobile radio telephones jumped to 1,669 from 762.

While the company's advances in phones, revenue, services and construction were modest for the year, they were part of the steady program that Illinois Bell has been carrying on for the last 25 years.

At the end of 1930 the company had 1.4 million phones in service, less than half the number now in use. At that time less than 60 per cent of the households had a tele-

TELEPHONES IN USE

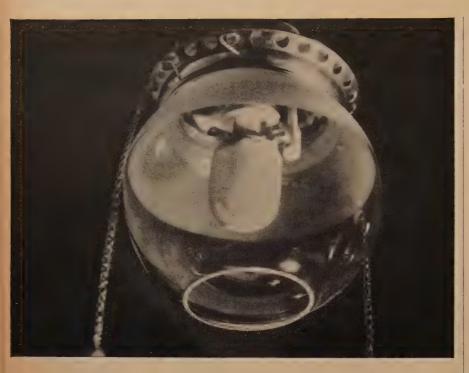




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phone. The total number in use in residences was 890,776, over a million less than today.

Perhaps the greatest contrast 1930 to 1954 is in the number of phones added during the year. During 1930 Illinois Bell added 130 phones or only a fraction of one per cent of the almost 95,000 installed last year. While the total number of calls per average day then was 6.4 million, or a little less than 50 per cent of the current total daily rates, the individual phone was used more. In 1930 calls per telephone were 4.45 per day compared with today's 4.3 calls.

The tax per telephone in 1930 was \$6.61 compared with \$36.15 last year. Revenue per phone then was \$64.94, a little more than half of last year's. Expenses per phone then were \$53.62; and now, \$105.47.

Less than one-fifth of the telephones in service in 1930 were dial phones. Almost 80 per cent in service today are dial. The company had 293 central offices and 29,392 employes then compared with 407 offices and 41,040 employes now.

The average length of "trouble free" service for a telephone in 1930 was 23 months. The many improvements made since give today's phone a "trouble free" life of 42 months.

Total wages and related costs for the less than 30,000 employes in 1930 amounted to \$48 million or \$1,600 per employe compared with \$200 million or almost \$5,000 per employe in 1954 for the 41,000 employes.

One phase of CTA

modernization ends

HE Chicago Transit Authority completed modernization of its surface passenger equipment in 1954 and advanced modernization of its rapid transit equipment to almost 80 per cent of completion.

CTA revenue for the year amounted to \$121,139,515 compared to \$124,103,962 in 1953. Operating expenses totalled \$103,-411,537 for 1954 and \$106,296,905 in the previous year. The balance available for debt service and other charges was \$17,727,978 in 1954

compared with \$17,807,057 in 1953.

Advance retirement of CTA revenue bonds continued during the year. A total of \$120,000 in principal amount of bonds were bought on tenders. These purchases brought advance retirement bonds to a total of \$1,778,000 in principal amount, achieving a saving of \$150,034 in principal charges, and \$1,812,468 in interest charges. Also during the year CTA retired \$1,800,000 in principal amount of serial maturities of its revenue bonds.

Passenger traffic volume continued to decline during the year, dropping from 686,560,076 originating rides in 1953 to 641,166,501 originating rides in 1954. The rate of decline for Chicago, however, was less severe than in the industry as a whole. For 1955, a further lessening in the rate of decline for Chicago is anticipated.

Rapid Transit Volume Up

Rapid transit passenger traffic volume continued to show a slight increase in 1954, but severe traffic congestion on the city's streets continued to affect adversely surface operations and surface system passenger traffic.

During the year 646 modern buses and rapid transit cars were delivered or ordered at a cost of about \$13 million.

In daily service at the year end were 277 odorless propane gas buses and 156 all-metal rapid transit cars that had been delivered during 1954. One hundred and fourteen more rapid transit cars and 99 more L-P gas buses are scheduled for delivery in the early months of 1955.

Since the start of CTA's modernization program more than \$95 million has been invested or committed for purchase of modern rolling stock; in modernizing other equipment, such as shops, shop tools, and garages; and for improving other service facilities.

Altogether 3,585 buses and cars, including 270 green hornet street-cars that have been or are being converted to rapid transit cars have been purchased. Only 225 more green hornet rapid transit cars are needed to complete modernization of the "L"-subway rolling stock. Eighty more of these cars

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are to be ordered in 1955, making a total of 550 purchased by CTA.

Future rapid transit cars may be high speed units rated at a maximum of 70 to 75 miles per hour. Development work is now under way in co-operation with General Electric Company and Westinghouse Electric Corporation. Four experimental units of the type planned for use in the median strip rapid transit facility of the Congress Expressway are expected to be ready for road tests in 1955.

By 1957 it is anticipated that at least part of the new median strip will be ready for use. Temporary relocation of the "L" tracks has progressed between Gentral Avenue and Lombard Avenue. The Central and Austin stations have been relocated to make way for expressway construction.

Conversion to Bus

During the year substantial progress was also made in changing from streetcar to free-wheeling bus operation. Five streetcar lines — Ashland, Halsted, Kedzie, Lake, and Cermak — were converted to bus routes. This leaves only four streetcar lines, Broadway-State, Clark-Wentworth, Western Avenue and Cottage Grove Avenue in operation. The first three are operated with buses on week-ends.

On the rapid transit system allmetal cars replaced the obsolete wood-steel cars on the Lake Street route. Service was generally improved by the substitution of new type cars for obsolete equipment. The first automatic washer for rapid transit cars was installed—and the nation's first radar-type device to control trains spaced less than a minute apart was placed in service on Lake Street.

The parking lot for CTA patrons at Desplaines Avenue, Forest Park, was enlarged to accommodate 400 automobiles. Construction of a new parking lot for CTA patrons at the Kimball-Lawrence terminal of the Ravenswood rapid transit route will be completed shortly. It will be the fourth parking lot established for CTA riders.

The CTA established five more off-the-street terminals for surface routes. They are located in Columbus Park at Harrison and Central, at 95th and Ashland, at 87th and Western, at California and Roscoe,

and at Grand and Fullerton. During 1954, the CTA also co-operated with the Street Traffic Commission in studies to develop other measures for expediting traffic flow, such as traffic lanes exclusively for transit vehicles. CTA is now operating 100 off-the-street terminals for its surface routes.

Keeping pace with rolling stock modernization during the year was modernization of behind-thescenes facilities, such as shops, shop tools, car houses and garages, so vital to the job of providing transit service.

Special Shop Tools

To properly maintain and repair CTA's large fleets of modern buses and cars, more new, special shop tools and other facilities were provided for the surface system shops at 78th and Vincennes, and at 3901 West End Avenue, and at the rapid transit shops in Skokie. Adaption of shop buildings for handling the modern equipment was also advanced. The training of shop men in the use of the new tools and in the maintenance and repair of the modern equipment continued.

Construction of CTA's third allnew bus garage started during the year and will be completed in 1955. Located at Elston and Armstrong, it will cost \$2,500,000. It will provide storage and service facilities for 175 trolley buses and 200 motor buses. The other two all-new garages are located at 103rd and Vincennes, and at Kedzie and Foster.

Several major changes occurred in the membership of Chicago Transit Board during the year. On June 30, 1954, Mr. Ralph Budd, former president of the Burlington Railroad, and nationally prominent in the industry, retired from the chairmanship, a post that he had held since September 1, 1949.

Mr. Budd was succeeded as member and chairman of the Board by Mr. V. E. Gunlock, former Commissioner of Public Works of the City of Chicago.

In September, 1954 Mr. Guy A. Richardson retired as a member and vice-chairman of Chicago Transit Board, having completed 54 years of service in the local transit industry.

Mr. Werner W. Schroeder, nationally prominent lawyer, succeeded Mr. Richardson as a mem-

ber and vice-chairman.

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Additional TV stations help electronic output

NCREASED production of lower-priced receivers, plus a gain of 61 new television stations in 1954, helped Chicago-area electronics companies maintain their unit production at levels generally comparing favorably with 1953. Government orders for electronic equipment tapered off some 10 per cent from the level of 1953, and radio production, including car radios, dropped around 20 per cent; but telephonic equipment, which accounts for almost a quarter of the area's electronic production, increased by an estimated 10 per cent.

Boosts in production and sales of tape recorders, high fidelity equipment, and varied applications of the new transistor also helped keep local plants moving at a good pace. Chicago-area manufacturers were responsible for about 30 per cent of the nation's electronics business, maintaining their 1953 level.

Color television, though it still commanded top billing in industry research, failed to materialize as a major item on assembly lines. Development and production bugs, plus retail prices in the neighborhood of \$1,000 a set, held national production down to a nominal level

The transistor, which enjoyed a birth almost as widely heralded as color television, also failed to reach consumer products in large numbers, although for different reasons. The bulk of 1954's transistor output went into military, technical communications and computing equipment, leaving the transistorized hearing aid virtually alone to demonstrate the midget miracle to the public. Raytheon Manufacturing Company, however, announced it would be ready to start shipments in February, 1955, on its new transistor portable radio, and most companies reported research on a great variety of transistor applications, including television.

Inventories Down

With factory inventories down 130,000 units in radio and 75,000 units in TV below 1953's year end figures, the industry looked forward to 1955 with cautious optimism. Employment, which averaged 84,-500 in the Chicago area for 1954. increased toward the end of the year, rising to a high of 89,300 in November from the July low of 79,000. The 1953 average was 100,400. Industry employment across the nation was down from 555,700 for 1953 to 525,900 for 1954.

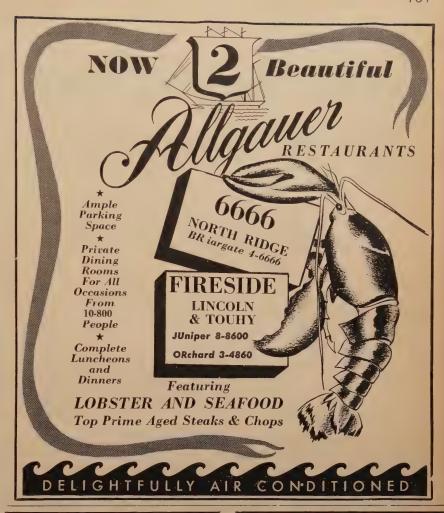
Production of lower-priced television receivers to entice bargain minded consumers was reflected in estimates by Television-Electronics Fund, Inc., that 7.3 million units were produced in 1954, at a retail value of \$1.3 billion, as compared to the previous year's production of 7.2 million sets worth \$1.7 billion. Radio prices were only slightly lower, with 6.4 million sets sold for \$193 million, compared to 8.1 million sets in 1953 at \$268 million.

Good Outlook

The industry expects sales and production of black and white television to continue at a very good level in 1955. With 33,393,200 of the nation's wired homes now equipped with receivers, the market is about 74.1 per cent saturated, as opposed to 98.1 per cent for radios, 92.4 per cent for refrigerators and 81.3 per cent for electric washers. Further, the replacement and second-set markets have yet to be fully explored. Both dealers and manufacturers assert that replacement business is increasing. About half of the industry's total sales to date were made in the years before the larger screens became available, and large-screen sets today retail at less than the small screen units of five years ago.

The second-set business is also expected to increase materially now that design improvements have begun to reduce the size and weight of receivers, and as families shunt their original sets into children's and recreation rooms. The National Broadcasting Company has estimated the families now owning two sets at less than two per cent of the total.

The opening of new market cities via additional stations also augurs well for production and sales. The 126 commercial television stations of two years ago had more than tripled to reach 417 at the end of 1954 – 422 in 279 cities in the United States and possessions as of February, 1955. Within the United States, eighteen new cities had stations, bringing the total to 243. An additional 156 stations have their construction permit authorizations from the Federal Communications Commission, and another 32 authorizations have been



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issued for educational stations, with seven now on the air.

Besides the obvious sales potential of new market cities, sales have been holding up well in cities where stations have been established for some time. In the Chicago area, for example, some observers thought the maximum sales penetration point was close at the end of 1951, when a little over a million sets had been sold here. But Chicago area families bought another half a million sets in the next two years, and 266,693 more during 1954. Today, according to the Electric Association, there are 1.838.813 sets in homes in the metropolitan area.

While consumers continued to buy black and white sets, segments of the industry locked horns over color television development in 1954. Zenith Radio Corporation's president, Commander E. F. McDonald, Jr., charged that "The heart of every color television set is the color tube, and the whole color television industry has heart trouble." He asserted that the present three-gun color tube is "costly and difficult to build," and labeled it a "major obstacle to development of practical and economical color receivers." Zenith is building only experimental color receivers, while it and most of the rest of the industry work feverishly to develop a single-gun color tube.

Color

Other Chicago-area plants, however, are proceeding to produce and market color sets according to existing design possibilities. In July, Motorola previewed for its dealers a 19-inch color receiver to retail at \$895, and the sets began moving out into the markets in September. Of sales reaction, the company comments, "We built our share and sold them."

Admiral, rated as Chicago and the industry's biggest producer, built a limited number of color sets. Admiral's president, Ross D. Siragusa, has maintained that color TV will remain a luxury item with a restricted market until a 21-inch picture set is available at \$500 or less.

Thus far, only WGN-TV among the Chicago stations has announced plans to originate live color telecasts, and then not until December, 1955. The station expects to start telecasting color film from Chicago in October, and already is equipped for and has been telecasting color programs originated on the Mutual Network. The new live and film color equipment and studios will be part of the station's facilities on the fortieth floor of Chicago's new Prudential Insurance Company building.

WBBM-TV picked up for relay to Chicago viewers about thirty CBS network color telecasts during the fall and winter, but has no plans as yet for originating color programs here. WNBQ has been carrying NBC color shows since December, 1953, and expects to be equipped to originate color film early in 1955, but live color shows out of Chicago are still on the horizon. WBKB has no plans for color as yet, either live or filmed, nor has the ABC network, according to Chicago representatives.

Education Station

With \$300,000 still to go in its drive for community support, Chicago's educational station, WTTW, is not yet considering color. The "Window to the World" station will start construction of its facilities at the Museum of Science and Industry early in 1955, and hopes to begin test programs during the summer, followed by a regular schedule in the fall. Edward L. Ryerson, president of the Chicago Educational Television Association, is confident the remaining funds to insure WTTW's operation for the first two years will be obtained. The station moved closer to the air waves in 1954 with the hiring of a director, Dr. John W. Taylor, and program manager, James Robertson.

Two other developments in telebeing carefully were watched last year by both the electronics and entertainment indus-Closed circuit television grew to encompass 63 cities with facilities for paid-admission viewing of sports and entertainment events or sponsored programs for private audiences. And Zenith Radio Corporation, on November 29, renewed in somewhat altered form its petition to the FCC to authorize commercial subscription television.

Dubbed "Phonevision," the Ze-(Continued on page 180)

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International Harvester photo

Production, employment down

in farm equipment industry

OR the American farmer, 1954 was a good year. Net farm income of \$12.5 billion was more than triple average net return of \$3.9 billion during the pre-war 1930-39 period and slightly more than annual earnings of approximately \$12 billion averaged during the year 1940-53, which included the prosperous war and immediate post-war periods. But while farm income remained relatively high, the downward trend of commodity prices made the farmer skittish and sales of farm equipment fell off.

What happened to the farm machine and implement industry was mirrored in the results of International Harvester Company, leader in the field. Harvester sold \$45 million-worth less farm tractors and implements during the fiscal year ended Oct. 31, 1954, than the year before when sales, exclusive of exports, totaled \$345 million. The decline of 15 per cent carried through the industry as a whole and resulted in cutbacks in production and employment lay-offs. These were sharper than the drop in sales of farm equipment would indicate due to termination of defense contracts during fiscal 1954, and generally reduced military expenditures with the end of hostilities in Korea.

Harvester sales of farm equipment for the first quarter ended January 31 of the current fiscal year are up, however, from the corresponding year ago period and employment, too, has gained, particularly at its Melrose Park and Chicago Tractor Works, where Harvester's new line of Farmall tractors is in production.

The new line, announced in December, is notable because it is the first completely new line of tractors introduced by Harvester since 1939 and also is indicative of the strong sales effort being made by farm machine makers this year to loosen the farmer's grip on his purse strings. Practice of the industry has been one of constant product improvement rather than annual model changes. This year's crop of new products bids fair to being the largest ever introduced in the history of the farm tractor and implement business.

Harvester's new tractor line already has had a salutory effect on first quarter business, which is estimated up between 10 and 12 per cent from the like period a year

Total employment at Harvester's four Chicago area plants, as of February 1, this year was still 1,000 under February 1, 1954, although at the Chicago Tractor Works it was back to the year ago level of 4,500 workers and at Melrose Park was just 100 less than the 3,900 on the payroll prior to the completion of a major defense contract at the plant in February last year. Recovery was less marked at the West Pullman parts plants which serve other industries besides farm. There the number of employes on February 1 stood at 1,800 compared with 2,400 the year before. The McCormick Works, devoted solely to manufacture of farm implements, had 3,600 on its payroll against 3,900 at the beginning of the second fiscal quarter, last year and 5,500 two years ago.

Dairy Equipment

Farmers in 1954 also bought less farm dairy equipment. Sales of farm dairy machines and equipment in 1953 were above 1952, due largely to an increase in dairy herds as farmers and ranchers switched to dairy production after the break in cattle prices in 1952.

Babson Bros. Company, largest manufacturer of farm dairy equipment in Chicago and reputedly in the world, appeared to fare better than others in the industry with sales reportedly down "very little" from 1953, but acknowledged that farmers were tougher customers to

sell last year.

While some further drop in commodity prices in general is considered probable this year with consequent lower farm income, the outlook for farm equipment manufacturers is not all cloudy. The average farm today is about 25 per cent larger in size than a few years ago. Less farm labor is available. Farmers are some ten years older on the average than in 1940. The need for more, speedier, more economical and easier-to-operate and machinery equipment | greater. Added to that, farmers are in an exceptionally strong and liquid position financially and judging from new models being introduced the farm equipment manufacturers have the products to induce them to spend more freely.

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Rail equipment outlook good despite sharp decline in '54

HICAGO area manufacturers of railroad equipment are a little more optimistic than a year ago. They entered 1954 with backlogs down and freight car loadings slipping. The outlook was gloomy and was confirmed by net operating results for the year - off approximately 40 per cent from 1953, as were railway outlays for equipment.

There has been a change for the better since the closing months of 1954, however. Freight car loadings stopped falling off in the final quarter of 1954 and, for the first two months of 1955, are up from the corresponding year ago period. New orders for rail equipment are trickling in and while so far, they have resulted in no increase in production schedules, they portend heavier buying in 1955 than last year if the upswing in general business activity continues.

Backlog Swells

Pullman-Standard Car Manufacturing Company's order backlog swelled from 2,063 freight cars at the beginning of the year to 3,100 as of the middle of February. This normally would represent one month's output but Pullman-Standard currently is operating at about 40 per cent of capacity as new orders, while encouraging, have not yet picked up sufficiently to warrant a step-up in production. The company has two production tracks at each of its three Chicago plants. It is operating only one. Employment at the three plants is down from a normal 8,500 to 4,000 production workers.

The company delivered 9,680 freight cars in 1954 or 9,723 less than in 1953. Its passenger car business was substantially up from 1953, helped by a 141-car order from the Canadian National Railways and one for 100 passenger cars from the New Haven railroad. The result was an increase in passenger car deliveries to 308 from 62 in 1953. Pullman - Standard accounted for virtually all of the 350 passenger cars delivered by the industry as a whole last year. The industry total in 1953 was 386, with Pullman-Standard accounting for less than

Production and employment at American Steel Foundries' Hammond and Indiana Harbor works were less drastically affected by the decline in orders for railway equipment. Employment held fairly steady due to an increase in industrial sales, other than railway equipment, and to defense contracts. The Hammond plant makes brakes, draft gears, forgings and springs for railway equipment and other purposes and was busy last year on defense contracts. The Indiana Harbor works, which makes wheels, wheel trucks, side frames, brake beams and other parts for freight and passenger railroad cars, now serves other industries also. American Steel Foundries has been steadily reducing its dependence on railway business and early this year advanced its diversification program a step further with the purchase of Pipe Line Service Corporation at Franklin Park. During the 1954 fiscal year ended last September 30, railroad business accounted for approximately 50 per cent of the company's total. Up to the end of World War II, it was 90 per cent.

General American Transportation Corporation delivered only 1,000 freight cars on orders last year compared with 4,500 in 1953. This was exclusive of tank and other railroad cars built for its own fleet. which held total output of its East Chicago assembly plant close to the 1953 level. Present order backlog of 800 cars, including 500 on foreign orders and 300 for Railway Express, is much better than a year ago, the company stated, but employment in East Chicago is down to 2,000 from 3,000 last May, following termination of defense contracts.

Operations of Railway Steel Spring, division of American Locomotive Company; National Malleable & Steel Castings, Standard Railway Equipment Manufacturing Co. and other Chicago area manufacturers serving the railroad industry similarly reflected the slump in orders for rolling stock.

Manufacturers of track equipment, too, felt the pinch. American Brake Shoe Company reported production and employment at its Ramapo Ajax division plants in Chicago and Chicago Heights were down in proportion to the 40 per cent cut in equipment outlays by railroads. The Ramapo Ajax division makes railroad switches, frogs, crossings, switch stands, lubricators and other track accessories. Output of its brake shoe and castings division plant was down also.

Parts and Rebuilding

Electro-Motive Division of General Motors Corporation depended on parts and rebuilding business for the major part of its dollar volume last year as it has for the past few years, now that most domestic railroads are dieselized. Repair orders and upgrading were good enough to cause the rehiring of some workers laid off last year and generally the company says business is looking up. There are still some 9,000 steam locomotives on American railroads, Electro-Motive points out, of which about 8,000 are serviceable. Outside the United States, the market for diesels has been hardly scratched.

Railway equipment manufacturers are relying chiefly on continued improvement in freight carloadings to lift their business in 1955. Car obsolescence is in their favor and will work for them to a greater extent if current improvement in rail earnings is maintained. The annual retirement rate is 60,000 cars. Total number of domestic freight cars delivered by commercial, railroad and private line shops last year was 35,000, or 25,000 under replacement needs. While Chicago area car builders are optimistic, few look forward to any substantial increase in car orders before the middle of the year.

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Candy business not so sweet;

per capita consumption drops

HE average American ate less candy in 1954 than in any year since 1939. Per capita consumption dropped to an estimated 16 pounds from 17.1 in 1953 and compared with a previous low of 15.7 pounds in 1939.

The American consumer is drinking more soda pop, munching more cookies, and eating more ice cream and frozen ice bars than ever before, so he hasn't lost his sweet tooth, but for the candy industry, the disturbing fact remains that while Americans are eating better and eating more than ever, candy sales have failed to keep pace with the growth in population and food consumption.

Why? That's the big question to which the National Confectioners' Association, trade organization of the candy industry, is seeking an answer. A special industry committee is currently studying factors affecting candy consumption.

The candy kitchens of the nation turned out 2.6 billion pounds of confections last year. That's a lot of sweets but it was 118 million pounds, or 4 per cent less than in 1953 and cut dollar sales by an estimated \$20 million to \$976 million for 1954.

Chicago candy makers fared bet-

ter than the industry as a whole, however. A spot check revealed 1954 sales, for the most part, held their own with 1953 and in some instances slight gains were experienced. This would indicate that for the year, Illinois manufacturer-wholesalers sustained the increase reported by the Bureau of the Census for the state for the first eleven months of 1954.

Counter to a 2 per cent decline in dollar volume for the industry, Illinois processors sold \$229,268,000 worth of candy from January through November last year, or 3 per cent more than in the corresponding 1953 period. Illinois accounts for over 25 per cent of total U. S. dollar volume, and Chicago is the largest candy producing center in the world.

Bar candy, bulk goods (including penny items), five- and ten-cent specialties, and packaged candy retailing at one dollar or more a pound, continued to experience a declining market and were down from 1953. The sole items that sold better than in 1953 were packaged goods retailing at less than a dollar a pound.

Part of the decline in volume and dollar sales of the industry was attributed to price increases. The

average value of all candies was 37.5 cents a pound last year as compared with 36.6 cents in 1953. The hike primarily reflected increased cost of chocolate items, including molded chocolate and chocolate-covered bars, as a consequence of soaring cocoa bean prices that accompanied the short 1953-54 world crop. Starting from a range of 33 to 35 cents a pound at mid-1953, the price of cocoa beans climbed to 71 cents a pound in May, 1954.

Substitute Coating

As profit margins were squeezed, candy makers struggled to hold the consumer price line. An increasing number turned to the use of hard vegetable fat coating instead of cocoa on bars and other candy items. Others, continuing to use "genuine chocolate coating" only, were able to absorb higher costs for a while, but by fall most had no recourse except to boost prices of chocolate confections at the wholesale and retail level to stay in business. Reduced use, and anticipation of augmented supplies from the new cocoa bean crop now being delivered, brought cocoa bean prices down to around 45 to 49 cents a pound at the beginning of 1955.

Record breaking heat throughout the United States during the 1954 summer, and protracted warm weather that carried into late October, also adversely affected candy sales. The industry recognizes, however, that the basic challenge it must meet is competition from other foods, and sellers of other merchandise, and the consumer attitude toward candy. Will the consumer buy candy, or will he spend his money for other foods, goods and services that provide satisfaction and pleasure?

Consolidation of Chase Candy Company and Bunte Brothers in January last year gave Chicago the nation's second largest candy manufacturer. The new company, now operating as Bunte Bros. Chase Candy Company, moved all of Chase's operations from St. Louis to Chicago.

There were no major capital expenditures for candy plant expansion or improvement last year except a \$750,000 warehouse by E. J. Brach & Sons, completed in August.

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Defense orders drop in area,

further reductions forecast

ILITARY expenditures in the Chicago area in .1954 followed the national pattern of reduced spending following the end of the war in Korea.

A further reduction is indicated, based on proposed plans to cut military strength by 200,000 men by mid-1956, although spending for the calendar year 1955 may hold at or near the 1954 level.

Estimated expenditures for major national security programs were placed by the President in his budget message at \$40.5 billion for the fiscal year 1956, which begins July 1, 1955. This is only \$186 million under the total for fiscal 1955, and compares with a \$4 billion cut made in defense appropriations for fiscal 1954, following the Korean settlement.

Contracts awarded by military procurement offices headquartered in Chicago in 1954 showed increased spending in some instances and a decline in others from 1953. A breakdown of expenditures in the six-county Chicago area is virtually impossible to obtain because of variations in record-keeping, but based on figures available, the dollar total of Chicago's military output last year was somewhat under 1953.

Major Share to Chicago

The Chicago Ordnance District, which covers an eight-state area, placed about 57 per cent of its total awards in the Chicago region, including northern Illinois and the Gary, Ind., area. Dollar amount of contracts awarded Chicago regional manufacturers for all of 1954 was \$25,238,149, a sum equalled in the last six months of 1953, alone. A comparative figure for all of 1953 is not available. Of total awards in 1954, \$12,989,631 was for ammunition, \$5,351,827 for tank-automotive, \$520,735 for artillery, and \$5,375,956 for small arms and miscellaneous items.

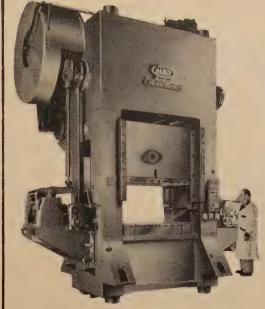
Production on ordnance contracts, however, was much higher than the value of new awards would indicate, because of carry-over from previous years. Last year's productive output by Chicago regional manufacturers, as defined by the district ordnance office, was \$44,525,711. Volume of work outstanding or still to be completed stood at \$213,976,096 as of January 21, this year.

Chemical Orders Stable

Orders placed by the Chicago Chemical Procurement Office in support of chemical corps arsenals remained relatively stable. One hundred eighty-six contracts valued at \$4,913,166 were awarded in 1954 for metal components and equipment, such as fuses for grenades and other items. Dollar volume was approximately the same as in 1953, excluding Korean War purchases. Very little procurement of chemicals is done by the Chicago office and no end products are made here. The bulk of 1954 production was for stockpiling.

Air Force procurement increased, with most contracts calling for electronic gear and aircraft accessories. Gross volume for 1954 came to \$503 million as compared with \$466 million in 1953. Virtually all of the contracts were placed in Illi-Iowa, which with Illinois comprises the Chicago procurement district of the Air Force, received roughly only \$100,000 of the more than half a billion dollars worth of business placed last year. A large portion of the orders remained outstanding at the close of the year. The Chicago office administers contracts for electronic devices such as communications equipment, radar and navigation and recording instruments; parachutes, containers, survival equipment, and photographic equipment.

Drafting boards of the district public works office at Great Lakes continued to reflect the active construction program of the U. S. Navy in the Ninth Naval District, which covers a 13-state area. The



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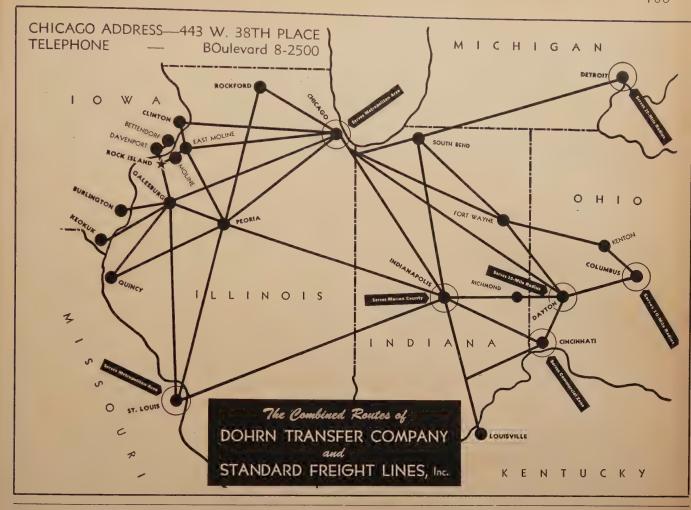
Major projects underway in the Chicago area include Naval and Marine Corps Reserve training facilities at Forest Park and Aurora, and technical schools and officers' mess at Great Lakes.

Headquartered in Chicago is the dual organization of the Industrial Manager of the Ninth Naval District, and the Supervisor of Shipbuilding and Naval Inspector of Ordnance. The Industrial Manager is responsible for the maintenance and repair of the nine ñaval training vessels on Lake Michigan and electronics and ordnance equipment at the naval air stations and training centers throughout the 13 midwestern states.

Shipbuilding Contracts

The Supervisor of Shipbuilding administers shipbuilding contracts in the Great Lakes area amounting to \$185 million. These contracts were 75 per cent completed on January 1, 1955, but new shipbuilding contracts probably will be awarded in the spring. While most of the shipbuilding activity is outside the Chicago area, Chicago is not without shipbuilders. Henry C. Grebe and Co. completed three minesweepers and one air rescue boat at a construction cost of \$3.5 million last year. Olson Shipyard, Inc., another Chicago firm, was building ten large landing craft at a cost of \$677,000. Major significance of the district's \$185 million shipbuilding program to Chicago and midwestern industry is that much of the machinery for these ships is manufactured in the Chicago area and nearby states. Machinery costs are nearly equal to the construction costs and are not included in the foregoing figure.

Dollar volume of procurement by the Chicago district office of the





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Army Corps of Engineers, last year, was considerably under 1953. The office is the country's main buying center for heavy construction equipment, bridging, road rollers, landing mats and fertilizer. New contracts for construction equipment and military supply materials placed by the district with Chicago area firms amounted to \$27,678,000 in 1954 against \$46,262,000 the year before. Deliveries, reflecting the cut in new orders, were down from \$86,035,000 in 1953 to \$48,-126,000 last year. Dollar volume of contracts outstanding at the close of 1954 was \$27,742,000, as compared with \$48,190,000 a year earlier.

Signal Corps procurement figures for the Chicago area are not available, but a great many more orders are now being placed through the Chicago district office than a year ago as the buying of the Philadelphia headquarters office is being decentralized.

Food Purchases Drop

The military establishment bought less food, last year, too, as military personnel was reduced. Food purchases for both the Army and Navy are now consolidated under a single agency, the Quartermaster Market Center, head-quartered in Chicago. The Chicago purchasing division of the market center is the country's largest, and buys for military installations in 14 states.

More than half the \$300,430,000 worth of subsistence purchased by the Chicago division in 1954 was bought from Chicago firms. This was about the same ratio as in

1953, although dollar volume that year was higher as was poundage. Dollar volume of purchases from Chicago firms in 1954, as compared with 1953, was as follows: Meat products, \$93,400,000 vs. \$9,000,-000; poultry, \$53,000,000 vs. \$55,-000,000; waterfoods, \$55,000 vs. \$60,000; fresh fruits and vegetables, \$1,150,000 vs. \$1,200,000; frozen fruits and vegetables and juices, \$900,000 vs. \$800,000. An additional \$8,500,000 worth of nonperishable foods was bought in Chicago, last year. No comparative figure is available for 1953.

Total value of procurement awards by the Chicago market division in 1954 for perishables was \$194,450,000 of which \$148,505,000 was placed with Chicago firms. The 1953 total was \$258,661,000, with \$152,060,000 going to Chicago produce companies. Most of the nonperishable subsistence items are purchased outside the Chicago area. Last year, they amounted to \$105,980,000. Chicago firms accounted for \$8,500,000 of the total.

Non-food items are purchased by the Chicago Quartermaster Depot on Pershing Road. They include everything, including the kitchen sink - cooking, baking, laundry, refrigeration and heating equipment; household furniture, kitchen ware, china ware, athletic equipment, packaging and crating material, caskets and 55-gallon gasoline drums. These are among principal items bought by the Chicago depot. Estimated purchases in 1954 were \$25 million. During 1953, purchases of subsistence, since divorced, were made at the depot, hence no comparative total for non-food items is available.

Executives Go To School

(Continued from page 36)

a bachelor of arts degree in business administration spend 40 quarter hours on liberal arts courses, against 145 hours in specialized courses.

Those who believe that the declining interest in liberal arts education is a major cause of today's executive shortage include some rather respected names in American business. Irving Olds, retired board chairman of United States Steel Corporation, is one. Recently, he commented: "The most diffi-

cult problems American industry faces today lie chiefly in the realm of what is embraced by a liberal arts education."

But there is another group which disagrees. Perhaps the best statement of its position is that an education, liberal or otherwise, is not the only, or necessarily the most important, measure of a man's executive ability. Motivation, ability to get along with others, skill at organizing work, and leadership, these are a few of the admittedly

intangible factors which play a part in determining a man's ability to handle a front-office job.

This divergence of opinion is perhaps one reason for the great variety of solutions that have been advanced for the problem. Jobrotation, job restructure (renovating the jobs just below the topmost level to split up executive responsibility among a larger group), in-plant training, and seminars held both inside and outside company walls are some answers that have been tried. Within the past two or three years, interest has grown in still another, courses tailormade for middle management executives, held at colleges and universities and financed, partially or completely, by the com-

In 1951, there were only a handful of these courses according to the National Industrial Conference Board. Today, there are 50 or more. Some of the best-known are given at Harvard University, the University of Chicago, Northwestern University, Massachusetts Institute of Technology and Carnegie Institute of Technology. Students have enrolled from among the ranks of Sears, Roebuck and Company, Inland Steel Company, U. S. Steel Corporation, Standard Oil Company, International Harvester Company, Westinghouse Electric Corporation, and several other firms, large and small.

Tuition for Courses

Here are examples of the tuition for some campus courses. The fee at the University of Chicago is \$1,200. This covers two three-hour sessions a week for a two-year period. One of the desirable features of the Chicago course is it is held at night. This gives the executive a lighter school schedule spread over a two year period. Since he goes to school at night, he can continue to be productive days at the office.

Tuition for the "Institute For Management" course at Northwestern is \$1,000. It is a daytime course offering 80 hours of classroom study and lasts a month. At Harvard the bill is \$2,000 a head, plus living expenses. It is another daytime course and lasts three months.

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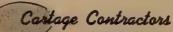
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do not replace company-sponsored programs, according to John E. Jeuck, youthful-looking dean of the University of Chicago business school. Rather, one type of training complements the other, he adds.

An inside training program can give the company story, its own systems for handling finance, sales, production, and other jobs much better than any outside college or university. But the inside program normally can't provide the general education on these subjects as well as a campus classroom. For one thing, the company usually lacks such teaching talent.

"Outside executive training is no shortcut up the ladder of success," says Dean Jeuck. "In fact, one of the first things we tell incoming students is that if they expect to get a raise or a promotion solely on the strength of what they learn here, they're going to be disappointed."

What does the tuition buy, then? First of all, a broadened viewpoint - an appreciation for, and knowledge of, the jobs performed by other members of the management team. When the student finishes, usually he has shucked off the specialist's comparatively narrow approach and has acquired one that embraces the operations of the company as a whole. In other words, he has acquired what may properly be called an "executive attitude." The training also builds personal confidence. Dean Jeuck believes it gives the student a willingness to tackle big jobs he might have shied away from before.

Taken several pegs down the abstraction ladder, what this means is that executive training is designed to give a controller, for example, an appreciation for the demand side of prices, as well as the cost side, so that if and when he becomes a top executive and has to help decide pricing policy, he will be able to look at the problem from all sides. Or in the case of a sales manager who has advanced mainly because he knows the customer's needs and the product's ability to satisfy them, the training is designed to provide the background in statistics and marketing that would be needed, say, to buy a research project.

At Northwestern's Institute of Management, which has educated 251 executives from 103 companies since it opened in 1951, the curriculum consists of two courses. One, "Top Management Policy and Administration," presents an actual case history of a business problem. Participants decide what the solution is, make plans, and set up the organization needed to carry them out. The other course, "Managerial Responsibilities and Their Limits," focuses students' attention on the "integration of management policies, decisions, statements, actions, and the economic, social, and political scene." The business cycle, fiscal policy, banking policy, anti-trust and fair trade legislation, taxation, and conditions of work are among the subjects discussed.

"Executive Program"

The U. of C. "Executive Program," underway for 11 years, has graduated well over 500 students. The progam consists of 12 courses, taken two at a time during each of the three quarters that make up the school year. These include "Administrative Relationships," an analysis of administrative problems "which focuses on the relationships among the people involved, and develops a course of action by some responsible member of management." Another, entitled "Public Regulation of Business," covers business problems arising from governmental regulations and rulings.

Courses in the theory of management, marketing, finance, statistics, and economics are also part of the curriculum.

How valuable is this training, and how successfully does it improve the student's ability to handle his job? Because of the intangibles involved, both questions are hard to answer, but there are several indications that these campus courses are a worthwhile investment.

One is that the majority of students trained at both Northwestern and Chicago feel their time in the classroom has returned important dividends.

The fact that both executive schools have been in business for a good many years and have drawn students from a host of companies in a wide variety of industries indicates that what they have to offer has important on-the-job value.

James Parker, a veteran of 20 years at International Harvester, and presently controller of the firm's Wisconsin Steel division, is a member of the Executive Program's class of '48. He recalls the days when, "if you wanted to get ahead, you worked 15 nights out of the month." Things are different today, which is one reason he decided to take the course. Another was "the desire to learn about new developments in fields outside my own specialty (accounting), which I come into contact with in the course of my job."

Parker believes that outside courses like the executive program can go a long way toward solving the executive shortage. He emphasizes, however, that not every shortage is amenable to this cure. These are perhaps the two most important lessons to be learned from industry's adventure on the campus so far.

New Products

(Continued from page 27)

manufacturer is finding new products. Most managers of small business think of new products as the first line of defense against declining volume. But these same managers are very busy people and find it difficult to put product search on a formal basis to which they can devote time. Most small businesses cannot afford research departments even to a limited extent.

What is the procedure then in finding new products?

In the first place diversification is usually most profitable when new products fit in with the company's present production experience, equipment and sales organization.

For example, the J. M. Smucker Company added such products as jams and jellies in addition to apple butter, which was the company's big seller, because salesmen reported repeated requests for these items. Jams and jellies now outsell the apple butter.

As a result of a number of dealers' requests for the item, a manufacturer of auto lubricants and chemicals began to produce tirepatch kits. He found to his surprise that they were a large mover and in regular volume.

An ink manufacturer brought

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out a desk pen and ink stand which only his uniquely shaped ink bottles would fit.

A women's garment manufacturer of brand name items added blouses and men's shirts.

In another instance, the manufacturer of plastic light fixtures was able to convert idle equipment to the production of plastic dishes which turned out to be a bigger seller than his major fixture line.

A company manufacturing hearing aids found its production skills adaptable to interoffice communication systems and subsequently diversified along these lines to everyone's benefit.

Another way a smaller company can help itself is to develop a close relationship with larger companies, not necessarily as a satellite but principally to learn from their wider experience. Plant trips can be very productive, not for the purpose of spying, but to find out what the big fellow may be doing that is wrong for him but may be just right for the smaller company.

Tour Proves Profitable

A manufacturer of screw machine products in Providence, Rhode Island, developed a wonderful business because he went through a bearing manufacturer's plants in that area and discovered that they were making a product once a month on a line set up especially for the product. It was obviously a very uneconomic thing for them to do and he finally said, "why don't you let me do that for you, and then I can get two or three other manufacturers and do it for them." The bearing manufacturer was willing to go along with this suggestion as were several others. For many years this proved a profitable item for the smaller company.

A small chemical specialty manufacturer in Chicago followed the same approach and now makes a host of items for larger chemical

companies.

A variation of this method of working with larger companies permits a smaller businessman to share in some of the products and knowledge resulting from research done for the government by major companies.

For example, Minneapolis-Honeywell Regulator Company developed a gasoline measuring device

for B-29's early in the war which measured not the number of gallons but the number of pounds of gasoline in a tank. A small manufacturer took this development, on a royalty basis, and found industrial use for a gadget which measured pounds of a liquid product instead of volume.

The liaison that a smaller company needs to find such products can be accomplished in a number of ways. It can be done by an individual firm with its own people making plant scouting visits. This is time consuming and can be prohibitively costly. A likely alternative is to do it cooperatively. A number of smaller firms can get together and cooperatively hire a man to establish contact with likely sources. It should be a continuing thing. Not only will each cooperating company learn about new products but each will learn about new materials and about new manufacturing techniques. All of which are important in meeting competition.

Cooperative Research

Another variation is to engage in cooperative research. Trade associations can set up adequate facilities or they can employ such independent research organizations.

In addition, there are tie-ins with university technical staff members or other technicians who contribute toward technological progress,

For example, United Parcel Service of Illinois, Inc., wanted a truck that would be light and easy to maintain. A university faculty member heard about it and experimented with reinforced plastic. A plastic molder heard about these experiments and suggested that this was just the sort of material for a United Parcel Service truck.

The truck body weighs 300 pounds less than a steel one. Color is impregnated in the material itself, cutting paint costs to zero. Company testers think the body can be molded in plastic cheaper than it can be made of steel; but they say the big savings will come in operating costs. Two prototypes are being built for test purposes. If plastic bodies prove out they are expected to find a ready market in bodies for milk trucks, mail trucks, newspaper trucks, to name only a few possibilities.

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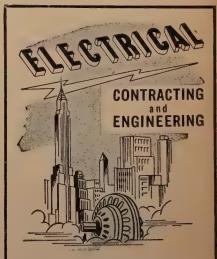
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ery next year on a machine inspired by a university chemist that blends any color on any base. It's called the Automatic Color Carousel and works like this: a customer orders a quart of semi-gloss in moss green, the salesman twists a few knobs and presses a button, the paint comes out, precise shade, correct base, in a matter of minutes. Earlier paint blenders worked only with powders and certain bases.

A small manufacturer also should make continuous observation of patent developments through search and report by patent attorneys or a patent search service.

Trade association research projects can also be very valuable to small companies.

Bankers, lawyers, accountants, business brokers, consultants, are just a few of the people to whom company owners might look for information as to acquisitions of new products.

Special Courses Helpful

Special courses on the latest product and market developments held at some of the universities and colleges throughout the country also can prove helpful to the small business man. The Management Seminar for Smaller Business at the University of Chicago, for example, will devote its eight Monday evening sessions this year to the general topic "New Products and New Markets." Meeting at the downtown college, the Seminar will start in April.

If small businessmen make a studied approach to this problem of finding new products, they will go a long way toward keeping their plants at a profitable level.

There are, however, some dangers connected with the search for and marketing of new products. Setting up new items is exciting but a smaller company can go overboard. Three things can be done to reduce the risk.

First, it is more desirable to develop new products which are compatible with the smaller company's present market and organization. The item should be something that is within the experience of the company's present staff and largely made with its available production means.

Secondly, the matter of studying (Continued on page 179).



Industrial Developments

. . . in the Chicago Area

NVESTMENTS in industrial plants in the Chicago area totaled \$40,130,000 in February compared with \$30,852,000 in February, 1954. Total investments for the first two months of 1955 stood at \$49,210,000 compared with \$50,740,000 for the same period in 1954. These figures include expenditures for the construction of new industrial plants, expansions of existing buildings and the acquisition of land or buildings for industrial purposes.

- Youngstown Sheet and Tube Company is expanding its East Chicago mill with the addition of a Number Two tin mill located between Riley road and 129th street in East Chicago. The plant will be adjacent to the cold reduced sheet mill from which it will be supplied with the basic sheet for tin plating. The mill will contain a halogen electrolytic tinning line and the accompanying shearing, warehousing and shipping facilities.
- J. C. Jensen and Son is constructing a 36,000 square foot addition to its plant at 6614 W. Diversey boulevard where it conducts a business of vacuum forming of plastic materials. Albert Glassgen, architect.
- American Typesetting Corporation is planning to completely remodel and add 14,000 square feet to the structure which it acquired at 1147-59 West Jackson boulevard for its own use. The company is now located at 547 South Clark street. Friedman, Alschuler and Sincere, architect.
- Kolcraft Company, 161 West Huron street, manufacturer of juvenile bedding, has acquired a four-story and basement building containing 52,000 square feet of

floor area at 514 W. Erie street. Lustig Company, broker.

- Continental Freezers of Illinois, Inc., is erecting a building containing 40,000 square feet of floor area adjacent to its plant at 4406-34 W. 44th street. This building will be utilized as refrigeration storage space. A. Epstein and Sons, Inc., engineer.
- Calumet Harbor Terminals Inc., 12933 S. Stony Island avenue, is erecting a marine warehouse building of 52,000 square feet at the juncture of the Calumet Sag Channel and Lake Calumet.
- Halsam Products Company, a toy manufacturer formerly at 4114 N. Ravenswood avenue, has relocated its entire facilities in a new plant in Skokie. The plant contains 107,000 square feet of floor area.
- The Borden Company is making a top addition to its plant at 3014 N. Tripp avenue, which will be in the form of additional refrigerated space. Approximately 8,000 square feet of floor area will be added.
- Orange Crush Company, 318 W. Superior street, will begin soon erecting a 45,000 square foot plant on 2½ acres of land in the 2000 block of Main street in Evanston. The plant is being designed to produce fountain and bottle concentrates.
- Twi-Lite Bedding Company, 3936 W. Roosevelt road, has acquired a building of 35,000 square feet of floor area at 23rd street and Central avenue.
- Certified Products Company, 315 N. Aberdeen street, producer

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of jams, jellies and preserves, has acquired a one-story building containing 40,000 square feet of floor area at 624 W. Root street. J. J. Harrington and Company, broker.

- Arkell Safety Bag Company, 6345 W. 65th street, has acquired a one-story 60,000 square foot industrial building at 5302 W. 66th street in the Clearing Industrial District in Bedford Park.
- Harper-Wyman Manufacturing Company is erecting a new office building of 9,000 square feet opposite its plant at 8562 S. Vincennes avenue. The firm manufactures gas range parts. Ralph E. Stoetzel, architect.
- Dukane Corporation, manufacturer of electronic equipment, is erecting an addition of 17,000 square feet of floor space to its plant in St. Charles.
- Phelps Dodge Copper Products Corporation, 100 W. Monroe, has acquired 30,000 square feet of floor space at 5302 W. 66th street in the Clearing Industrial District of Bedford Park. Bennett and Kahnweiler, broker.
- Duro Metal Products, 2649 N. Kildare avenue, is adding 5,000 square feet of floor area to its plant which will be used for manufacturing purposes.
- T. Williams and Son Company, 4423 N. Clark street, will start the erection of a new facility in Barrington which will house the firm's entire operations. The firm makes awnings and casual furniture.
- Bennett-Ireland, Inc., a New York firm manufacturing fireplace equipment, will establish new manufacturing and distribution facilities in Melrose Park where the firm recently acquired property containing 12,000 square feet of floor area. J. J. Harrington and Company, broker.
- North Lake Printing Company, Inc., has recently acquired a one-story building of 3,000 square feet of floor area at the northwest corner of Lake street and Wolf road in North Lake. J. J. Harrington and Company, broker.

Retail Trade

(Continued from page 47)

have been announced for locations disturbingly close to each other or to existing new centers.

"A great many shopping centers have been built in haste and are now being repented at leisure," said Lawrence B. Sizer, vice president of Marshall Field and Company, in a recent speech. Yet, Field's, itself, is scheduled to open a \$1 million branch in the Park Forest center early in 1955, and is sponsoring Old Orchard at Skokie on a scale designed to produce a sales volume equal to the combined total of all other existing centers around Chicago.

The point of view that resolves this apparent contradiction has been summed up by Field's chairman, Hughston M. McBain, in an address to the American Bankers Association. Said McBain, "There is nothing essentially new in the idea of the present day shopping center... The march to the suburbs from great cities really got under way soon after World War 1 . . . By the mid-twenties, our company had begun to ponder this trend and . . . in 1929 we opened three large branch suburban stores in locations miles from the Loop." The Henry C. Lytton Co. had opened branches in Oak Park and Evanston in 1927, and The Fair Store opened one in Oak Park in 1929.

Another Technique

To these and other seasoned merchants, shopping centers may be inevitable, but they do not spell the doom of the central or neighborhood business districts. Rather, the planned centers are regarded simply as another merchandising technique in the long list of changing methods essential to keep pace with a changing world, subject to the same careful investigation as any other new business technique. Selection of the Old Orchard site, for example, resulted from three different surveys conducted by three separate market research firms, each of whom arrived at the same conclusions without the knowledge of the others.

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consider the Loop their major outlet. Mr. McBain cautioned the bankers, "do not be so overwhelmed by the glamour girls of the business as to lose sight of the virtues of the old faithful helpmeet . . . Merchandising history will still be made in downtown trading areas, as well as in the suburbs."

Discount Houses

Shopping centers, however, were not the only competition testing the skill of the city's established merchants. Basic factors affecting the consumption dollar, plus biggun promotion, lured many a "bigticket" item customer into the halls of the discount houses. National business activity and industrial production were both slightly lower than the postwar peak reached in mid-1953, and the Chicago cost of living index hit a high of 118 in July, producing a consumer tendency to look twice before parting with any sizeable accumulation of dollars.

This tendency was reflected nationally in the decline in sales of refrigerators from 3,650,000 in 1953 to 3,425,000 in 1954; electric ranges from 1,250,000 to 1,165,000; and vacuum cleaners from 2,777,-700 to 2,650,000. Other items, such as television sets and washing machines were up in numbers sold but down in dollar volume because of emphasis on less luxurious models. Almost 58,000 more washers were sold, but for about \$65.6 million less than the 1953 figure. Television sales rose some 85,000 units, but declined some \$282.8 million in dollar volume. Only a few large items, such as air conditioners and clothes dryers, showed increases both in numbers and dollars.

Against this leveling off in major appliance sales, the United States Chamber of Commerce estimated that discount houses handled about 18 percent of all retail trade for a volume of some \$25 billion. Total discount volume, including wholesale and service, was estimated by the U. S. Chamber to run about \$50 billion.

One difficulty in estimating the scope of discount operations in the Chicago area arises from the reluctance of local merchants to consider themselves in this category. Nor is there a discount merchants' association here, as has been organized in New York. But the director of one Chicago area retail association, to which the so-called discount houses do not belong, says that at least in appliances, "the discount houses definitely have diverted a great deal of trade."

In furniture, customers still seem to prefer their traditional dealers, partly, perhaps, because housewives make a more complicated process of furniture selection. The Chicago Retail Furniture Association reports that total furniture sales, in specialty stores as well as department stores, increased about \$5 million above 1953 to reach a half-billion total for 1954. The steady increase in area home building prompts dealers to expect an even more prosperous year in 1955.

Chicago's department stores have conceived an answer to discounting not always available to smaller or more specialized merchants. A sizeable boom in "warehouse" sales took place in 1954, with Field's, Carson Pirie Scott and Company, Mandel Brothers and Goldblatt Brothers, Inc., all participating in this kind of promotion.

Warehouse Sales

The technique of the warehouse sale dispenses with some of the merchandising extras normally offered by department stores, but not with such services as charge and time payments. Huge stocks, chiefly of appliances, furniture and rugs, are gathered together in a warehouse or large hall, such as the Coliseum or Amphitheatre for a special sale of a few days' duration. Plentiful ballyhoo, emphasizing price cuts and sprinkled with some brand names, brings tens of thousands of shoppers to these events.

Spiegel, Inc., although it sold its Chicago-area furniture stores during the year, continued with its third annual Amphitheatre sale in June, creating an event big enough to attract coverage by Variety. Goldblatt's held its second such sale in the Coliseum, and Mandel's has acquired its own warehouse for such events, at Michigan Avenue and the Chicago River. Carson's, encouraged by the success of

two warehouse sales in '53 and '54, has opened its warehouse at 7100 South Cicero Avenue on a year-round basis, operating as a branch store. Carson's warehouse is open seven days a week, and stocks home furnishings, appliances, and some work clothes and daytime apparel.

Behind this public struggle to attract bargain hunters, which is liberally spiced with radio, television and newspaper promotion, a private but no less strenuous fight rages over fair trade. Although Chicago area merchants ask not to be quoted, they freely admit that fair trade, or manufacturer-fixed retail prices, already has broken down on a great many items. And the fight flared into the open at the most recent convention of the National Retail Dry Goods Association, sparked by such rebels as R. H. Macy of New York and J. L. Hudson of Detroit. The rebels, who want to meet the discounter on his own ground, pushed for an Association resolution against fair trade. But a slender majority, who believe the solution lies in stricter enforcement, carried the day.

One State Street merchant summed up his store's attitude with, "We seek no quarter and we give no quarter — whether or not we observe fair trade depends on the manufacturer." In other words, when he can prove a discounter is selling fair traded items below the manufacturer's retail price, his store follows suit.

Discounters' Rebuttal

The discounters, on the other hand, point to merchandising practices by more traditional merchants which, the discounters claim, amount to price cutting, such as unusually large trade-in allowances. Polk Brothers, which regards itself as a high promotion merchandiser rather than a discount house, asserts that fair traded items today represent such a small proportion of the total amount of retail sales as to be insignificant.

A similar battle over retail prices simmers in the automotive field, where franchised dealers in the Chicago and other large metropolitan: areas complain of "bootlegging," or the sale of cars, largely by unfranchised dealers, at below list prices. Bootlegging increases



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when inventories pile up and a franchised dealer unloads his excess stock, at little or no profit, to someone else who then proceeds to retail the cars at considerably below list.

Car production dropped from 1953's 6.1 billion to 5.3 million. Sales for 1954 also totaled 5.3 million cars.

But despite lower production and some consequent easing of their sales position, Chicago area dealers were faced with what the Automobile Trade Association termed "the necessity for good salesmanship." The gradual slowdown of consumer demand, already apparent in 1953, continued in 1954. In this framework, dealers and their associations were indignant over bootlegging and growing more insistent in their demands for better policing of the industry.

The used car market, after a slow start in the first half of the year, firmed up in the last six months, with prices reaching levels somewhat better than in 1953. Dealers in both new and used cars looked for improved sales in 1955. The advancement of the auto show date from March to January in 1955 already was reported to be exerting a stimulating effect on sales during what is normally a slow quarter.

Mail Order

The mail order business, which is centered in Chicago and constitutes one of the nation's largest retail operations, reported slightly lower volume than for 1953. Sears, Roebuck and Company, with its fiscal year ending January 31, 1955, announced total sales of \$3,100,-271,101, only 0.6 percent below 1953's all-time high of \$3,120,425,-734. Montgomery Ward and Company, reporting for the same fiscal year, showed a gross of \$961,410,-092, a 10.8 percent decrease below 1953. Consolidated net sales for Spiegel, Inc., were \$130,893,873, a drop of 2.32 percent under 1953's \$134,006,441.

One of the brightest spots in the local retail picture was the public's discovery of high fidelity record playing equipment. In 1953, Mrs. America had found the electric broiler and tripled its sales over

1952. In 1954, her husband learned about hi-fi — and bought enough equipment to make it the biggest news in retail electronics.

For many dealers and manufacturers, hi-fi was a "sleeper," an item that for years had been produced and sold in component parts chiefly to professionals and hobbyists. Television was the current siren of the industry, with 74 percent of wired homes already sold, and color television waiting to open up the market all over again as soon as sets could be produced at mass market prices.

New Seller

Then a few enterprising dealers, eager to help customers who were envious of their more skillful friends, started assembling and installing — and advertising — high fidelity equipment. And manufacturers like Zenith and Philco, who had quietly produced packaged hifi in small quantities since the 'thirties, found sales for both sets and components rising.

Simultaneously, high fidelity recordings zoomed to sudden popularity on the air waves, from the Carnegie Hall intermission broadcasts of the New York Philharmonic down to disc jockeys on local stations. Growing interest in good music helped, too - attendance at professional music concerts, for example, outgrossed baseball by about \$10 million in 1953, and classical music now accounts for about 30 per cent of the nation's booming record sales. Records hit an estimated \$250 million sales in 1954, about \$25 million more than the previous year, with expectations for a similar increase in 1955.

Manufacturers quickly stepped up production of packaged sets, designed more easily assembled components for hobbyists, and joined dealers in an all-out hi-fi promotion in 1954. Chicago area sales are estimated at some \$40 million for the year, about double the previous year. As reproduced music moves more and more into high fidelity techniques, dealers look forward to ultimately replacing every record player with hi-fi equipment, either custom or packaged.

Another sunny field for Chicago

retailers is the seemingly limitless "do-it-yourself" market. Fed by many forces — shortage and high cost of skilled labor, increase in families and in home ownership, and the ever-growing interest in home decoration and improvement — the do-it-yourself market has mushroomed into a major retail and production channel, Chicago's second Do-It-Yourself Show, in 1954, drew 84,000 people to the 140 exhibits at Navy Pier.

As with hi-fi, a smaller but steady market for home handyman materials and equipment had existed for many years. Mail order houses, like Sears and Ward's, numbered among the main outlets for this trade. Then came the War, and, caught in shortages both of labor and new household equipment, families had to learn to make many repairs and improvements themselves. Even the housing shortage helped, when, in the interests of speed and economy, contractors developed the "shell" house for purchasers to finish.

Big New Market

What started as a necessity became fun, fashionable, and - for the retailer - a big new market. In 1954, gross sales of do-it-yourself equipment and supplies reached an estimated \$8 billion, with the future limited only by the skills and imagination of consumers and suppliers. One development produces another on this retail candy mountain - the housewife who gives herself home permanents wants a hair dryer; the husband who lays kitchen floor tile gains courage to tackle wall panelling. And dealer and manufacturer cooperate in designing new, easier materials or more convenient packaging for old ones.

For example, the Douglas Fir Plywood Association, representing two-thirds of the industry, learned that the old four-by-eight foot panels, while fine for the construction trade, proved too heavy, wasteful or awkward for many do-it-yourself projects. Smaller, pre-cut sizes, called "Handy Panels," now hang in thousands of dealer display racks, and plywood sales have more than doubled.

Or, the paint industry soon found that week-end wall artists

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couldn't handle the heavy brushes of professional painters, and had trouble with streaks and lap marks in the traditional oil base paints. Resin and latex base paints quickly appeared on the market, together with the ubiquitous paint roller — and today, the paint industry estimates that 80 percent of all interior paint bought at retail goes to the do-it-yourselfers.

Sales growth in home workshop tools provides another index to this enormous market. In 1946, total national sales of home power tools were about \$15 million; total sales for 1954 are estimated at \$100 million. The United States Bureau of Labor Statistics estimates that 30 percent of building supplies are purchased for do-it-yourself use, an important factor in the multiple growth of the industry. Other clues are estimates that 65 percent of all wallpaper and 50 percent of all floor tile are bought and installed by householders.

Retailers Profit

Chicago area retailers have jumped on the do-it-yourself bandwagon with both feet and considerable profit. Retail lumber yards, like Hines and Harvey, offer a great variety of prefabricated items along with lumber stocks, and have adjusted hours, sales methods and promotions to suit the leisure-hour carpenter. Paint dealers offer special services, like the Martin-Senour Color Bars, where the housewife can select custom colors mixed to her order. The movement has spread to jewelry, millinery, decorative objects for the home - even the fine arts, with carefully outlined and numbered canvases available for amateur Rembrandts. Over 35 million women today sew some if not most of their family's wardrobes, with consequent boosts to sales of yard goods and sewing machines.

In summary, the year ended with a record retail dollar volume. Although some retail fields fell slightly below all-time peaks set in very recent years, such as 1951's department store trade, comments that this constituted a retailing recession were far from accurate. More consumers were buying more goods than in any previous era of retail history.

New Products

(Continued from page 170)

the market is important. Some market research must be done. It needn't be expensive. It can be just as simple as taking a prototype of the item the company has and trying to sell it. There is no better way to answer the question, "will they buy it?" Any opinion to the contrary, the real test is will they sign an order?

This is not, of course, all that market research is or can do; but it does convey the idea that there are very simple things which help determine the acceptability of the product a smaller company has in mind. It is not usually necessary to use involved research devices.

Joseph M. Juran, one of the best known quality control engineers in the United States, told a group at the Illinois Institute of Technology recently of too much emphasis on high falutin' marketing statistics and too little emphasis on what the statistics were supposed to do.

Quality Standards

He told of one company that had built its quality standards around product appearance because its market research had shown that color was important. Complicated statistical and measuring devices were used. If color was a wee bit off, a batch would be rejected. On the basis of appearance, the quality standards eventually were met. The color was perfect. However, the whole program was a waste of effort because the company's customers were worried about more than color. They were shipping the product back to the manufacturer, or weren't buying it at all because the chemical ingredients in the coloring had an offensive odor.

The third and most important thing an owner can do to reduce the risk is actually budget the project. There is nothing a banker appreciates more than having a businessman walk in with a studied approach to the profitability of a proposal.

A budget is very easy to prepare. It can't be done, however, sitting in a parlor chair at home at night and jotting random figures on the back of an envelope. Learn how to create one that will be meaningful. Even



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if the small owner has determined that the project is profitable, any financing is infinitely easier because the company head can show the possibilities in detail. It is no longer a presentation of a halfbaked idea.

There is much to look forward to for all small manufacturers. All of the new developments in electronics, in atomic energy, in new materials, in the use of isotopes, and the innovations in the chemical arts indicate that the hunting should be very good for new products.

Electronics

(Continued from page 153)

nith subscription system codes or "scrambles" the television signal, which can then be de-coded through a coin box attached to the home receiver. Under development since 1931, the system was tested successfully in Chicago in 1951 and in New York City in 1954. The company states that its tests show subscription programming would help solve some of television's economic problems: e.g., television could be made economically feasible in smaller communities where there is not now sufficient sponsorship to attract stations; more stations would find it financially possible to go on - and stay on - the air; cultural institutions, such as theater and opera, could find a truly national and, therefore, sustaining audience.

The high costs of television operation and programming already have exerted some restraints on the medium's potential. The FCC reports that 125 station authorizations have been "deleted," in most cases withdrawn by the applicants, since April, 1952. Thirty-one operating stations have closed down. Program costs to advertisers can run to \$100,000 an hour.

One index to the economics of telecasting lies in the surprisingly good showing of radio, thought by many prophets to be facing slow death as TV grew. At the end of 1954, the 2,697 AM and 558 FM radio stations and their networks had realized the second best year in advertising billing in their history. Gross advertising sales were \$715,146,000; net, after agency commissions, was \$453,385,000, only five per cent below radio's all-time

high of 1953. Television's net billings, notwithstanding its higher program costs, was \$515,000,000, up about 36 per cent from 1953's net of \$384,500,000.

The Radio Advertising Bureau is quick to point out that radio's continued stability was maintained under the handicap of the switch to TV of many of the programs and personalities that built radio's enormous audience. There are 117 million radios in 47.5 million homes. The Advertising Research Foundation estimates that the advertising dollar reaches 1,012 people on radio, compared to 391 people on TV, and to many advertisers this apparently is and will continue to be an important consideration.

Tape Recorders

In other aspects of electronics production, orders for tape recorders jumped some 25 per cent over 1953, with an even larger increase expected in 1955. The boom in high fidelity equipment, with sales and production estimated at double 1953's level, has helped producers of tape recorders as well as record players, since the growing legions of hi-fi fans aspire to own both. One Chicago manufacturer, whose company produces both tape recorders and record players, asserts that the growing popularity of hi-fi is as important to the industry as the introduction of three-speed record players several years ago.

Of the fifty American companies licensed by Armour Research Foundation to produce magnetic tape equipment, 22 are in the Chicago metropolitan area. One of the largest, Webster-Chicago Corporation, also is turning out reels of taperecorded music at prices comparable to those for long playing records.

In still another area of electronics, war-time technology and the recently improved transistor have created a sizeable boom in production and sales of hearing aids. Three of this industry's "big six" are located in Chicago — Aurex Corporation, Beltone Hearing Aid Company and Zenith. Several smaller companies, together with many of the largest suppliers of components, also are found in the Chicago area.

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Expansion, in fact, would seem to be the keynote of the Chicagoarea electronics industry – expansion into new research, new production techniques, new products, and new plant facilities. Admiral Corporation, for example, in 1954 installed automatic electronic equipment which assembles printed television circuits, equivalent to about half a conventional chassis, in a few seconds. Two similar and larger automation installations are now under construction and expected to be in operation early in 1955. Further, Admiral is planning additional plant expansion, with five new production facilities now under consideration.

Steel

(Continued from page 132)

finished steel consumed last year came from inventory. That is the equivalent of over eight million tons of steel ingots. That much steel added to the 88.3 million tons would have given 1954 more than 96 million tons and made it the third or fourth best year in history.

On the basis of 1954 actual production, steelmakers had no problems with raw materials. Iron ore supply was adequate and ore boats started the season later and closed earlier. Coal and coke requirements were also fully met without strain.

And as might be surmised from the fact that more steel was consumed than produced last year, steel scrap was in generous supply. Good supply and reduced demand operated to depress prices. The scrap market was also weakened because steelmakers used more hot metal and less scrap in their steelmaking furnaces last year. It was a matter of economics - the cost of hot metal made in blast furnaces versus the price of purchased scrap.

A new development in scrap attracted attention in Chicago last year, On September 7 the Chicago Mercantile Exchange initiated trading in heavy melting steel futures. It was the first time futures trading ever had been undertaken on scrap and the action was without the support of scrap brokers and dealers and steel mills. At the outset trading was limited to No. 1 heavy melting steel, but subsequently it was extended to include No. 2 heavy melting. So far, there is not enough trading in scrap futures to determine if it is a reliable forecaster of the scrap market.

Blast furnaces are the chief support of steelmaking operations because of the hot metal they reduce from iron ore and supply as charges to open hearth furnaces. They also produce pig iron which foundries use in making ferrous castings. With demand for steel and castings off in 1954, blast furnaces were not pushed for production. As a consequence, operations fluctuated considerably according to demand for

Pig Iron Production

Blast furnace production of pig iron and ferroalloys in both the Chicago district and the United States in 1954 decreased substantially - 19.6 and 22.6 per cent, respectively – from 1953. These drops were sharper than for steel ingot output which were 14.6 per cent in the Chicago district and 20.8 per cent for the country. An accompanying table shows monthly production statistics for 1954 and 1953.

Chicago output of pig iron and ferroalloys last year was at 76.6 per cent of capacity, while the country was 5 points behind at 71.6 per cent.

In 1954, production of pig iron and ferroalloys in the Chicago district was 21.4 per cent of the national total. For the year before it was 20.6 per cent. As a consequence, Chicago's proportion in iron output, like steelmaking, slightly.

As of January 1, 1955, the American Iron and Steel Institute reports annual blast furnace capacity of the country as 83,971,100 tons, an increase of 1,969,710 tons, or 2.4 per cent, over 1954. Chicago district capacity at beginning of this year is posted at 16,431,050 tons, a gain of only 59,800 tons, or 0.37 per cent, over a year ago. At present, Chicago can claim only 19.6 per cent of national total. This compares with 20 per cent at start of 1954, 20.3 for 1953, 21.3 for 1952, 21.6 for 1951, and 22.2 per cent for both 1950 and 1949.

No new blast furnaces were built in the Chicago district last year and none are under construction currently. The small gain in capacity represented minor adjustments made by two companies in reappraising capabilities of existing furnaces.

Modernization Continues

As pointed out previously, major expansion in Chicago district iron and steelmaking facilities has been concluded. Nevertheless, a substantial amount of construction and modernization continues. Projects completed, in progress or announced in 1954, can be briefed as follows:

United States Steel Corp.: Constructed at Gary, Ind., coal chemical facilities incorporating departures from conventional process design to yield higher recovery of coal chemicals including naphthalene. Two batteries of coke ovens were rebuilt at Gary and a second continuous sheet galvanizing line was installed at Gary Sheet and Tin Mill. In April, Office of Defense Mobilization approved granting of federal tax benefits to assist in expansion of metallurgical by-product coke producing facilities at Joliet, Ill., at an outlay of \$15,925,000. The corporation so far has not appropriated funds for this project to get under way. In September announced major improvements in its finishing facilities for structural shapes at the South Chicago Works. This improvement, not yet started, is designed to meet increased demand for light wide-flange structural sections. When originally built, South Works' structural mill was designed to produce a large percentage of heavy section beams. For this rebuilding work the Office of Defense Mobilization in December, 1953, granted certificates of necessity worth \$8 million. One certificate for \$6.57 million, with rapid amor-



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tization allowed on 50 per cent, covers the mill reconstruction and another for \$1.43 million, with 65 per cent fast amortization allowed, covers three new cranes.

National Tube Division of United States Steel Corporation installed at its plant in Gary facilities to produce plastic pipe. Construction of the plant began in June and production started in early October. Initial production is in polyethylene in sizes from 1/2 to 6 inches. Eventually pipe will be made in a greater size range and from other plastic materials. The pipe will be sold and serviced by existing steel pipe distributors throughout the country. National Tube thus becomes one of several steel pipe makers to manufacture plastic pipe as well.

Inland Expands

Inland Steel Co.: Spent about \$29 million in capital improvements in 1954, compared with an early estimate of \$35 million, and expects to lay out \$35 million during each of the next several years for capital expenditures. Heaviest outlays are scheduled for development of the company's Caland ore properties in Ontario, Canada. The ore mine is not scheduled to come into production until 1960. It is estimated to contain at least 50 million tons of high-grade iron ore, and is considered "protection on this prime raw material far into the future." An addition was built last year to power generating capacity at the Indiana Harbor, Ind., steel plant and six new soaking pits were constructed. In September, began enlargement and conversion of its 28-inch structural and rail mill to make wide-flange beams in addition to the regular production. Completion is scheduled for late 1955. The addition will mark Inland's entry into the wide-flange beam field. It will have an initial capacity of 325,-000 tons, compared with the former 275,000 tons of structural shapes. The wide-flange beams, which will be made in sizes ranging from 8 to 24 inches, have become increasingly popular in the building construction and bridge construction fields because of their greater strength. In October, Office of Defense Mobilization granted a fast amortization on the \$14,775,000 project, allowing the company to write off 50 per

cent of the cost over a 5-year period for tax purposes. In January, this year, ODM approved an additional certificate of necessity on this project to extent of \$2,404,550, with 65 per cent allowed for fast amortization. These improvements already under way concern changes in the blooming mill which serves the structural mill. Only two other companies in the United States produce a full size range of wide-flange beams and only one mill for their production is now located in the Chicago area. In November Inland announced that its galvanized sheet capacity will be boosted 60 per cent by end of 1955 through construction of a third continuous galvanizing line at Indiana Harbor, Installation started in December. The company's second line went into production only last May. Capacity of the three lines will be 210,000 tons annually. At yearend Inland announced that its 1954 ingot production set a record and that its ingot capacity was being boosted 300,000 tons to 5 million tons as of January 1, 1955. This was the second year capacity was increased without new installations, a 200,000 ton jump having been made in 1953. Since 1950, the company has lifted its capacity 1.6 million tons, and about half of this gain has come from enlargement of existing furnaces, improved design of furnaces, heavier and more efficient material moving equipment and the development of better techniques, including heavy use of oxygen. The stepup in rated annual capacity to 5 million tons advances the company from eighth to seventh largest among the nation's steel producers.

Youngstown Sheet

Youngstown Sheet and Tube Co.: In January completed the \$165 million expansion started in July, 1950. Last facility to go into operation was the cold-reduced sheet mill. In late October plans to build a tin plate line at Indiana Harbor, Ind., were announced. It will be the firm's third line and will at least double present capacity for producing electrolytic tin plate.

Republic Steel Corp.: In April announced expansion of its seamless tube mill which began operations at start of 1953. Capacity will be increased by nearly 70 per cent

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by addition of new facilities for rolling smaller tubing. Completion is scheduled for spring of 1955. Capacity of the mill will rise from 186,000 to 312,000 tons per year. Major new equipment includes a billet heating furnace, piercing mill, plug mill, two reelers, conveyors and roll tables. The present mill produces seamless tubular products in sizes from 23/8 up to 95% inch OD. When the new facilities are in operation, Republic will be able to produce oil country tubing in 23/8 and 27/8-inch OD; bearing tubing ranging in size from 17/8 through 5-inch OD; and pipe and coupling stock for 23/8 through 41/2-inch tubing. Republic's improvement program also included a new building and equipment at its Union Drawn Steel Division plant in Gary. The new building houses production facilities for an additional 1,500 tons of carbon and alloy cold-drawn bars and 6,000 tons of alloy cold-heading wire per month to meet increased demands of midwestern customers.

Acme Steel Co.: Installed at Riverdale a new rolling mill for cold rolling strip steel to very light thickness with extremely close gage tolerances. This permits the company to become active in a field of strip products in which it has not previously participated.

World Steel Corp.: Plans to construct a steel plant in the Chicago area. The company was incorporated in 1953 by Peter S. Pedersen, president, who also is president of MPH Mfg. Corp. Inc., and its affiliate, Wonder Building Corp. of America. The latter two companies manufacture a trussless, clear-span, steel prefabricated building and have a factory in Chicago. The steel plant of World Steel would confine its operations to production of electric furnace steel and galvanized sheets at an estimated capacity of 250,000 tons annually. The novelty in the company's plans is the intended use of atomic power. Last August application was made to the Atomic Energy Commission for authority to install an atomic reactor. This would be utilized to make steam to operate electric generating turbines. It is estimated that I pound of uranium in a reactor could produce as much energy as 1,500 tons of high-grade coal. The electric power would be used to operate electric furnaces which use scrap steel largely as the charge. It is contemplated that the facilities will include a continuous galvanizing line. Start of construction this year is the hope.

Phoenix Mfg. Co.: Installed a new 20-inch merchant bar mill at its plant in Joliet, Ill., in 1954 and thereby marked the completion of a three-year expansion of facilities. A warehouse opened in the same city about a year ago is handling the output. The mill increases the company's capacity for billet and axle steel bars and special shapes from 15,000 to 150,000 net tons a year. The 20-inch three-high breakdown mill feeds four stands of 12inch two-high and two stands of 10-inch two-high crosscountry finishing mills. Phoenix now can produce bars and special sections ranging from 3/8-inch through 21/2 inches, compared with the former range of 3/4-inch to 11/4 inches. A new heating furnace will heat 30 tons of billets or axles an hour to 3,000-degrees F. It has a 17×50 foot hearth and is of pusher type with end charge and side discharge.

Continental Steel Corp.: Modernized its wire mill in Kokomo, Ind., in 1954 and installed additional wire drawing machines.

Keystone Steel

Keystone Steel & Wire Co.: Last August announced expansion plans which will increase the wire mill's rod processing facilities, provide additional warehouse space and add to the finishing and shipping operations. Total cost is estimated at more than \$500,000. Other improvement activities at Keystone's plant in Peoria, Ill., include installation of a new soaking pit in the steel plant. Completed last year was a building to house a gas-fired muffle-furnace which increased the company's wire mill rod processing capacities about 50 per cent. This expansion enables the company to produce more wire for the coldheading industry.

American Locomotive Co.: During 1954 this company abandoned and dismantled 78,000 tons of open hearth steel capacity at its Chicago Heights plant. This plant which makes springs had three furnaces of 56 tons rated capacity but they had not operated for a number of years. The steel for spring manu-

facture is purchased.

Plant Investments

(Continued from page 71)

General Mills Corporation's enlargment of its plant at 104th Street and the Calumet River; Jewel Foods newly completed warehouse in Melrose Park; Consolidated Foods Corporation's \$6,000,000 warehouse in River Grove; Cantrell & Cochrane Corporation plant which began producing canned soft drinks at 926 W. 121st Street; Campbell Soup's 28,000 square feet of added floor area for frozen soups; and the Calumet Industrial District's 500,000 square foot warehouse for food distribution at Stony Island and 91st Street, a large portion of which will be occupied by The Kroger Company.

Metal Products

Among manufacturers classified as fabricated metal products producers there were 51 plant projects, amounting to \$13,277,000. This total covered 1,050,000 square feet of floor area. The output of all firms in this industry in 1954 totaled \$1 billion, 450 million, including a wide variety of products such as tin cans, heating apparatus, structural metal products, coatings, metal stampings, engravings, lighting fixtures, fabricated wire products, springs, bolts, nuts, washers, screw machine products, metal drums, barrels and kegs. Among the 51 projects for plant expansion in 1954 were some of very large size. To mention only a few, there was the Continental Can Company's three story laboratory building adjacent to its plant at 76th and Loomis Streets; a 33,000 square foot addition to the Symons Clamp and Manufacturing Company plant at 4249 W. Diversey Parkway; the 210,000 square foot building being added to the facilities at S. O. S. Company on W. 65th Street in the Clearing Industrial District; the first unit of Signode Steel Strapping Company's new plant in Northfield township; The S. A. Hirsh Manufacturing Company's addition of 22,000 square feet of floor area to its plant in Skokie; the 25,000 square foot addition to Gerber Ornamental Iron Works in Skokie; the purchase by Ekco Products Company



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of the building in River Grove formerly occupied by Dulane Corporation; the building of 40,000 square feet for the new home of Dudek & Bock Spring Manufacturing Company at 4016 W. Grand Avenue; the acquisition of a new 47,000 square foot building by David Architectural Iron Works, the structure being located at 1820 N. Central Avenue; Chicago Extruded Metals Company's purchase of additional plant facilities at 1820 S. 54th Avenue, Cicero; Allsteel Equipment Company Incorporated, adding 75,000 square feet to its plant in Aurora; Accurate Perforating Company's acquisition of 200,000 square feet of floor area and adjacent land at 3600 S. Kedzie Avenue.

Non-Electrical Machinery

Non-electrical machinery, the third largest industry in the Chicago area in total value of output, in 1954 turned out products valued at \$1 billion, 840 million. This industry was second only to fabricated metals in the number of plant expansion projects with 45. This expansion totaled 1,213,000 square feet of floor area and represented an investment of \$16,080,-000. Important projects include: Ditto, Inc., which is erecting a new factory at McCormick Road and and Pratt Boulevard in Lincolnwood, containing 300,000 square feet of floor area; A. B. Dick Company is erecting an 80,000 square foot unit at its plant in Niles; Foote Brothers Gear and Machine Company acquired a fourth plant at 4613 S. Western Boulevard; Goss Printing Press Company added 12,000 square feet to its factory; Ideal Tool and Manufacturing relocated in a 25,000 square foot plant at 5615 S. Claremont; Dormeyer Corporation erected a 300,000 square foot plant on Fullerton Avenue on the North Branch of the Chicago River; Illinois Tool Works added 40,000 square feet to its plant in DesPlaines for its Shakeproof Division; Olson Filtration Engineering Incorporated erected a 15,000 square foot plant in Bellwood; F. B. Redington & Company, manufacturer of packaging machinery, erected a new plant of 60,000 square feet in Bellwood; Sauerman Brothers, Incorporated, earth moving equipment manufacturer, built an 11,000 square foot building in Bellwood; Service Machine Company, punch press manufacturer, erected a new plant at 2310 W. 78th Street; Spraying Systems, Inc., added 25,000 square feet to its plant in Bellwood; Verson Allsteel Press Company is erecting a 49,000 square foot building at its plant at 93rd Street and Kenwood Avenue; Wilton Tool Manufacturing Company is building a new plant of 65,000 square feet in Schiller Park.

Electronics

Several large projects were announced during 1954 in the electronic and electrical machinery industry. This industry, in which Chicago leads the nation, turned out \$1,750,000,000 worth of products in 1954. There were 26 industrial plant investment projects among companies in this field during the year, with a total of 1,128,-000 square feet of new floor area and a total investment amounting to \$13,789,000. Included were the new laboratory of Motorola, Inc., in Niles, which will contain 270,-000 square feet of floor area; a new 80,000 square foot plant for Shure Brothers, microphone manufacturer, in Evanston; Hotpoint, Inc., added 180,000 square feet at 5600 W. Taylor Street for washer and dryer output; Fresh'nd Aire Company added 10,000 square feet to its plant at Grayslake; Delta Star Electric Division of the H. K. Porter Company added to its plant on W. Fulton Street; Boom Electric and Amplifier Company erected a 16,000 square foot factory at 5218 W. Grand Avenue; Bodine Electric Company started work on the first unit of its plant on Addison Street and the Chicago River, to contain 130,000 square feet of floor area; Blue M Electric Company is erecting a 22,000 square foot plant in Blue Island; Admiral Corporation erected a warehouse of 160,000 square feet in Franklin Park; Westinghouse Electric Company is building 130,000 square feet of warehouse space at Nashville and Cortland Streets; Peerless of America acquired a large building at 5820 N. Crawford Avenue, for the manufacture of air conditioning equipment; Mitchell Manufacturing Company, air conditioning apWHAT PRODUCT IS USED WITH EQUAL SUCCESS & ENTHUSIASM IN THE

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paratus manufacturer, acquired two buildings of 160,000 square feet at Halsted Street and Chicago Avenue; Magnecord, Inc., acquired a 72,000 square foot building at 1101 S. Kilbourn Avenue; and Line Material Company, Division of McGraw Electric Company, acquired a site for a new 88,000 square foot building at Wolf Road and the North Western Railroad in Melrose Park.

Chemicals

In the field of chemicals, in which the Chicago area is one of the nation's largest producers, output in 1954 was valued at \$1,190,-000,000. This industry reported 20 plant investment projects in 1954, amounting to \$9,114,000 and involving 405,000 square feet of new floor area. Among the large projects were: F. E. Schundler, Inc., in Joliet, which is expanding its plant with a 100,000 square foot building for the production of plasterboard; two plants new to the area are the Pennsylvania Salt Company, which erected a 25,000 square foot blending plant in Chicago Heights, and the International Salt Company, which put up a 50,000 square foot building on the north branch of the Chicago River at Goose Island; National Cylinder Gas Company is erecting its fourth gas production and bottling plant at 109th Street and Torrence Avenue, containing 36,-000 square feet of floor area; Linde Air Products Company expanded its plant in East Chicago; Lien Chemical Company is adding 26,-000 square feet of floor area to its Franklin Park plant; International Minerals & Chemical Corporation acquired a building at 4701 W. Iowa Street with 22,000 square feet of floor area for its Ac'cent Division; Chase Products Company, manufacturer of aerosol bombs and insecticides, completed a 30,-000 square foot plant in Broadview; Barrett Division of Allied Chemical and Die Corporation built a warehouse structure of 32,-000 square feet of floor area at its main plant at 2800 S. Sacramento Boulevard; Abbott Laboratories expanded its plant in North Chicago by the erection of a 30,000 square foot structure for waste treatment, by the purchase of a plant of the American Can Company, consisting of four buildings on a 13½ acre site in North Chicago, and by the construction of a 30,000 square foot building in Clearing Industrial District of Franklin Park

Another major industrial category in which Chicago is a leader, the printing and publishing field, reported 15 plant investment projects during 1954, involving an expenditure of \$7,041,000 and the construction of 416,000 square feet of new floor area. The largest projects are the 225,000 square foot building being erected at Peterson Avenue and Pulaski Road for Commerce Clearing House, publishers of topical law reports; Photopress, Inc., is constructing, on a $4\frac{1}{2}$ acre site in Broadview, a building which will contain 80,000 square feet of floor area; Laidlaw Brothers, Inc. is building a 25,000 square foot plant in River Forest; Brock and Rankin, book binders, added 12,000 square feet to the plant the company purchased on 16th Street and Kilbourn Avenue; Howard Flint Ink Company, manufacturer of printing ink, is erecting a 41,000 square foot plant in Broadview; Field Enterprises, Inc. purchased 60,000 square feet of land on the north bank of the Chicago River at Rush Street for the future home of the Chicago Sun-Times.

Furniture

In the furniture and wood products industry, another field in which Chicago is an outstanding producer with products valued at \$380,000,000 in 1954, there were 13 industrial development projects reported amounting to \$1,967,000. Included were U. S. Plywood Corporation's new building at Cortland Street and Narragansett Avenue to contain 60,000 square feet of floor area; Schulz and Hirsch, bedding manufacturer, erecting a 32,000 square foot plant addition; Nachman Corporation acquired a building of 18,000 square feet of floor area at 1801 N. Humboldt Boulevard; McLeod Furniture Company of Kenosha, Wisconsin, transferred its entire manufacturing operations to a 14,000 square foot building at 2616 W. Grand Avenue.

Other projects tending to keep

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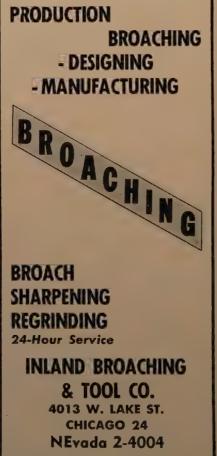
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Chicago the most widely diversified manufacturing center in the nation included the enlargement of the Universal Atlas Cement Company plant at Buffington Harbor in Gary. This was the largest cement plant expansion in the last 15 years, and brought the unit's capacity to more than 10,000,000 barrels a year. The Metro Glass Company of Jersey City, N.J., began constructing a glass bottling plant on a 10 acre site in Dolton; Gibbs Boardtile Corporation is erecting a 22,000 square foot building in Palatine; Sellstrom Manufacturing Company is erecting a 24,000 square foot building on Northwest Highway in Palatine for the manufacture of safety eye protectors; Sawyers, Inc., manufacturer of stereoscopic photographic equipment, added 17,000 square feet to its plant; Minneapolis Honeywell Regulator Company purchased 13 acres of land in Morton Grove for future consolidation of its four Chicago plants; Fisher Scientific Company of Pittsburgh, Pa., erected a 40,000 square foot building at 1458 N. Lamon Street, to manufacture laboratory apparatus; Inlander Brothers Paper Company is erecting a 21,000 square foot building at 7701 S. Claremont Avenue; Aircraft Engine Division of Ford Motor Company is making a large addition to its plant for increased production of jet engines. Joanna Western Mills Company is adding 72,000 square feet of floor area to its plant; the acquisition by the Visking Corporation of 380,000 square feet of floor area in a building in the Clearing Industrial District at 6801 W. 65th Street; an addition to the Dryden Rubber Company's plant of 11,000 square feet of floor area; 5,000 square feet added to the Salisbury Rubber Company; and the erection of a 12,000 square foot plant for Pioneer Rubber Mills Company of San Francisco.

While the number of projects was fewer in 1954 than in previous years, there were more large developments than in 1953. Several large projects are known to be on the drawing boards for 1955, and it is expected that with improved business conditions in 1955, this year will be as good as or better for industrial development than was 1954.

Guaranteed Wage

(Continued from page 24)

standard wages or having substandard working conditions."

This sleeper provision could permit laid-off workers to refuse jobs which state unemployment standards might certify. A nonunion shop, for instance, would certainly be "unsuitable." Final determination of what is or is not "suitable" would be left to the Board of Administrators of the guaranteed wage plan.

Should a laid-off worker be entitled to unemployment insurance, the employer's weekly liability for guarantee payments would be reduced by an amount equal to the weekly state benefit. If the worker drew no insurance, the employer would carry the full load.

Make Up Difference

If a worker covered by the guarantee accepted a job paying a lower wage, the original employer would have to make up the wage difference. The worker who took another suitable job only to be laid off again, would pick up his guarantee payments once more from his original employer.

One provision would eliminate the short work week. It says: "All workers able to work and available will be guaranteed 40 straight time hours of work or pay at their regular wage rates for every week, unless notified in advance that they are to be laid off for the entire week."

With such notice, the seniority worker, of course, would be eligible for his guarantee pay. The temporary worker would be out of a job for at least a week.

Without such notice, even an hour's work in a week would be enough to compel payment of 40 hours pay to both seniority and temporary workers. The full pay check would come through whether the short work week was due to a machine breakdown, a power shortage, a supplier strike or anything else.

The pay guarantee for pieceworkers would be computed on the basis of 40 times their previous

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U. E.'s plan calls for the employer to finance the plan through weekly contributions of five per cent of the payroll into a fund. This fund would be built up until it was equivalent to ten weeks pay for everybody on the maximum annual payroll. When that point is reached, the employer would need only maintain the fund level. Employers would never be liable beyond the five per cent of payroll no matter how serious might be the drain on funds.

U.A.W. is less explicit about financing. But, basically the auto workers want a combination payas-you-go and funded plan. Financing of pay for short work weeks would be separate from the guarantee pay plan. These weeks would be financed on a pay-as-you-go plan, costs not being credited against the employer's maximum liability for payments under the guaranteed pay plan.

Says U.A.W.: "Management will be required to bear directly the full cost of its failure to plan a full week of work for all the workers it calls in to work in any week. This will provide an incentive for better planning."

Pay-as-you-go Financing

Pay-as-you-go financing also would be required for weekly payments under the guaranteed plan "up to a specified maximum percentage of payroll." The idea is to make the employer directly responsible for short layoffs of say two, three, or four weeks, without giving the company an opportunity to cut costs through funding.

U.A.W. says this should inspire employers to guard against such layoffs. At the same time, U.A.W. admits that a ceiling must be placed on the employer's liability for these pay-as-you-go weeks. Otherwise, it would be impossible for a plant to figure its maximum possible costs under the plan, and says U.A.W., "no company will assume an unlimited and unpredictable liability."

U.A.W. also recognizes that the pay-as-you-go plan operating alone could penalize an employer heavily when layoffs are long. In fact,

it might bankrupt a company in rough times.

"Accordingly, if the plan relied entirely on pay-as-you-go, there would be no real security for laid-off workers at the time when the number of such workers was largest," U.A.W. admits. "It is therefore necessary to provide a reserve to meet the heavy guarantee liabilities that would result from large layoffs."

This reserve would be established like the trust funds provided under pension agreements. The employer would pay a percentage of his current payroll to establish the fund. U.A.W. hasn't said what it wants, but U.E. specifies the five per cent.

That fund would be maintained at a point representing a specified percentage of the base payroll during a recent peak employment period. It could, for instance, be set at a figure equivalent to 10 weeks' pay for everybody, at 20 or 25 per cent of the annual payroll, or at any other level agreed at the bargaining table. Whatever the figure established, this would be the employer's maximum liability under the plan.

Hypothetical Case

To illustrate how this plan would work, let's take a hypothetical case using arbitrary percentages and figures since these still must be set at a bargaining table, if set

A company employing 1,000 men accepts the guaranteed annual wage, with its plan calling for payas-you-go financing for the first four weeks of any layoff, with the fund to take care of subsequent payments. The employer's cost to build up the fund is set at 5 per cent, which would amount to \$3,500 a week if the average weekly wage is \$70.

The plan calls for the fund to be built up to, then maintained at a level equivalent to ten weeks' pay for everybody, or \$700,000.

Business is good for the approximately four years it takes the company to build up the fund. There are no layoffs and no additions to employment. (If there were additions, the fund maximum would be raised, accordingly.)

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four years, the company would have reached the \$700,000 level with the fund. (Interest would help build it up a little quicker.) At this point, the company wouldn't have to pay any more into it, but would merely have to maintain it.

Suppose now that 50 men were laid off during a slack period. Since the first four weeks must be financed by pay-as-you-go arrangements, the fund is unaffected. Each week the company would have to pay those 50 men \$3,500, putting that down to the cost of doing business.

Fund Makes Payments

If the layoff continued past four weeks, payments would then start coming from the fund, at the rate of \$3,500 a week. At the same time, since the fund has a drain on it, the five per cent of payroll assessments again are resumed by the employer.

Now, however, only 950 men are employed, so five per cent of payroll amounts to \$3,325, an amount which will be going into the fund each week as \$3,500 goes out. Since the fund level is based on the maximum payroll rather than on the current payroll, its maximum would remain at \$700,000.

Naturally, the Union's hope in this case would be that business would pick up shortly to end the drain on the fund. The employer would hope the same thing so that he could rebuild the fund to the \$700,000 level and cease making

those weekly payments.

To show the employer's maximum liability take the same company with its 1,000 employes and same wage contrast. In this case, let's assume the entire plant shuts down for some reason or another. For the first four weeks of the layoff, the employer will be paying out \$70,000 a week to his 1,000 employes. Of course, if any employe gets unemployment insurance or another job, the employer's costs would be cut to the extent of such payments collected by the worker. Nevertheless, the employer's maximum liability here is \$70,000 a

At the end of four weeks, the fund is responsible for paychecks. Theoretically, the employer must

(Continued on page 209)

Transportation

and Traffic



THE Central States Motor Freight Bureau has petitioned the Interstate Commerce Commission to enter into an immediate investigation as to the impact of wage increases resulting from demands and grants to organized employes of motor carriers for-hire in Central territory. The petition also asks the commission "to prescribe reasonable minimum emergency rates or charges in amounts sufficient to cover increased costs of operations, and, that all for-hire motor carriers conducting operations within Central territory be required to assess and collect such emergency rates or charges, in addition to presently established rates and charges." The petition asserts that the motor carrier industry in Central territory is in "a precarious financial position" and that "few, if any, motor carriers with investments in terminals and company owned equipment rendering a complete common carrier service in the transportation of all types of traffic in all quantities, can absorb the impact of the wage increases which became effective December 31, 1954." Continuing, the petition states that voluntary increases in rates and charges are impossible to effect because of the "destructive competitive conditions" existing among motor carriers caused by a relatively few carriers that "control and dominate" the level of rates. These carriers, the petition adds, own little, if any, physical properties and rely on the so-called owneroperator to transport the traffic which they originate. In conclusion, the petition points out that the Interstate Commerce Act "specifically authorizes and places upon the Commission the responsibility of preventing destruction of valuable properties of motor carriers, and, the livelihood of thousands

of persons relying upon these carriers for employment at a fair standard of earnings."

• I.C.C. Revises Notice on Requirements for Non-Lawyer Practitioners: The Interstate Commerce Commission has revised its notice of December 1, 1954, which raised the requirements for non-lawyer applicants for admission to practice before that agency. Under the terms of the December 1 notice, a minimum of two years of college, plus technical education, training or experience the equivalent of two additional years of college education will be required of such applicants, effective May 1, 1955. These educational requirements are in addition to an examination to test the applicant as to his experience in the field of transportation and his knowledge of the principles of regulation, the laws governing it, and the economic principles underlying it, the commission's rules of practice and the canons of ethics of the Association of Interstate Commerce Commission Practitioners. The revised notice defines the phrase "a minimum of two years of college" as the receipt of either 60 semester credits or approximately 1,000 scheduled class hours or periods for the successful completion of courses of study whether taken in residence or not. The word college means any educational institution authorized by law to confer the degree of Bachelor of Arts or of Science or an equivalent Bachelor degree, or a "Junior College" whose credits are accepted at full value by such "College." The revised notice also adds Section 9 which reads as follows: "If the applicant so desires, an application filed from December 1, 1954 to April 30, 1955, both inclusive, will be continued in force and consid-



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ered as active (and not subject to the qualification standard) until (a) the applicant is admitted to practice, or (b) until he has failed the examination three times, or (c) until February 28, 1957, whichever event occurs first."

• President Asks \$4 Million for Cal-Sag Project: President Eisenhower, in his budget message to Congress recommended a \$4 million appropriation for the 1955-56 fiscal year to permit the start of construction work on the Calumet Sag Channel project. Hjalmar W. Johnson, chairman of the Inland Waterways Coordinating Committee, declared the President's rec-ommendation as "the first step toward a new industrial boom in the Chicago Metropolitan Area, all around the Great Lakes and throughout the Mississippi Valley." This committee is comprised of 20 civic organizations and public agencies. It recently brought about the solution of major problems of local participation upon which the allocation of federal funds is contingent. With local cooperation assured, work can be started on the first five-mile section at the west end of the channel as soon as Congress approves the \$4 million appropriation. Mr. Johnson, who is also vice president of Inland Steel Company, said that the committee will continue its efforts at both local and national levels until the channel project is completed. A bill, H.R. 42, has been introduced by Representative William E. Mc-Vey of Illinois proposing an appropriation of \$5 million for the first year's work on the Cal-Sag Project.

• Carriers Ask Postponement of Order in \$1.50 Surcharge Case: The Central States Motor Freight Bureau has asked the Interstate Commerce Commission for a four month postponement of the date for compliance with the order in the cases involving the \$1.50 surcharge on motor carrier shipments under 5,000 pounds. The petition also asks that the time for requesting reconsideration or rehearing be extended to June 1, 1955. The commission recently found the strcharge unjust and unreasonable and ordered it cancelled not later than March 15, 1955, on 30 days' notice. In lieu thereof, the commission authorized a 23 per cent increase in rates on shipments under 2,000 pounds and 7½ per cent on shipments weighing between 2,000 and 5,000 pounds. The carriers' petition asserts that to publish the charges authorized by the report will mean a complete republication of the respondents' less truckload rates in all tariffs and that it is doubtful if this could be done by February 15, 1955. The petition added that a comprehensive and detailed traffic study is being made analyzing the effect of the authorized rates by class, weight bracket and distance. This study will require not less than 90 days to prepare and summarize. "Finally," the petition concludes, "if our fear that the authorized basis would impair the operations of the smaller carriers because of the difference in its impact, be confirmed, we believe we will be able to present to the commission a simple revised proposal which will avoid such a result." A further development in the case was the filing of a suit in the federal district court here by nine shippers against 108 motor carriers and the Central Motor Freight Association for \$35 million based on alleged overcharges resulting from payment of the \$1.50 surcharge. The suit also seeks an injunction to prevent further collection of the charge.

• Oral Argument on Truck Leasing Rules April 7: The Interstate Commerce Commission has announced that oral argument in Ex Parte MC-43, Lease and Interchange of Vehicles by Motor Carriers, will be held April 7, 1955, in Washington, D. C., before the entire commission. The argument will be on the provision of the commission's order requiring that the use of non-owned equipment by authorized motor carriers be under at least a 30-day written contract or lease. Also the provision in the order prohibiting the payment of compensation for the use of non-owned equipment on a basis of a percentage of the revenue earned by such vehicle. In the meantime, the commission postponed the effective date of both provisions to March 1, 1956. A bill, S. 898, which would prohibit the commission from regulating the use by motor carriers of vehicles not owned by them, has been introduced by Senator Smathers of Florida for him-



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- Recommends Conditional Approval of Motor Bureau Rate Pact: Interstate Commerce Commission Examiner O. L. Mohundro, in his proposed report, recommends conditional approval of the amended Section 5a rate procedure agreement of Central States Motor Freight Bureau. Examiner Mohundro said that "to assure the member-carriers the statutory right of independent action, approval of the rate agreement should be conditioned to prevent the Bureau, or any of its employes, from protesting for suspension of tariffs, filing complaints against the rates, fares, charges, etc., or otherwise maintaining litigation against its member-carriers." If so conditioned, the examiner added, the application will accord to each carrier party thereto "the free and unrestricted right to take independent action either before or after any determination arrived at through procedures established by the agreement. . ." Section 5a of the Interstate Commerce Act exempts from the provisions of the anti-trust laws the collective rate making practices and procedures of the carriers when applications setting forth such practices and procedures have been approved by the Interstate Commerce Commission. Exceptions to Examiner Mohundro's report must be filed with the Commission on or before March 4, 1955.
- Harold D. McCoy Appointed Secretary of I.C.C.: The Interstate Commerce Commission has announced the appointment of Harold D. McCoy as secretary of the commission, effective March 1, 1955. Mr. McCoy, who is presently assistant chief examiner, will succeed George W. Laird who retires on February 28. He is a native of Sparta, Wis., and has been with the commission since 1921, except for a period during World War II when he was with the Army.
- Announce Site of Illinois Motor Rate Hearing: The Illinois Commerce Commission has announced that the March 21, 1955, hearing in Docket No. 10760 MC will be held in the Ballroom of the St. Nicholas Hotel, Springfield, Ill., beginning at 10:00 A.M. The pro-

ceeding embraces a petition filed by a group of truckers for an investigation and order prescribing minimum rates for motor carriers of property for-hire in Illinois.

• Senate Confirms Nominations of Tuggle and Hutchinson: The Senate on January 27 confirmed the nomination of Kenneth H. Tuggle for re-appointment as a member of the Interstate Commerce Commission. At the same time the Senate confirmed the nomination of Everett Hutchinson as a member of the commission to succeed Commissioner Charles D. Mahaffie who retired on December 31, 1954.

Business Cycles

(Continued from page 40)

proved unfounded. After a moderate inventory adjustment which lasted about a year, our economy resumed its vigorous expansion. Then came the Korean conflict, which piled heavy military spending on top of a high rate of civilian spending and forced many of our industries to operate on an overtime basis.

Last year the strength of our economy was subjected to its third major test since the end of World War II. During the early months of 1953, production, employment, and the flow of incomes were expanding at a fairly rapid rate. Total spending by consumers kept pace with the increase of their incomes; however, spending on commodities, as distinct from services, tapered off. In view of this development, many businessmen deemed it prudent to reduce their inventories. The effort to bring inventories into better balance with sales led to a decline of industrial production, which became visible after July, 1953. Within a few months total production fell below the level of the nation's consumption, and an inventory recession of the sort that had occurred in 1948-49 was under way.

This readjustment of inventories was seriously complicated, however, by a sharp reduction of military expenditures. Between July, 1953, and March, 1954, industrial production fell 10 per cent, with the largest reductions occurring in the output of steel mills, ordnance es-

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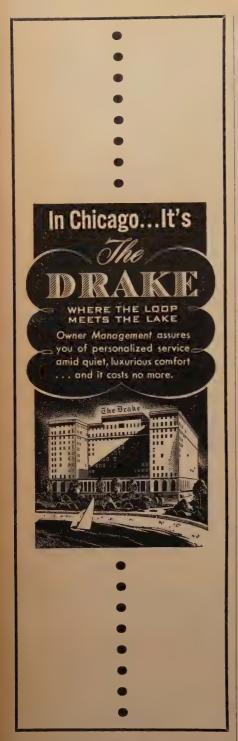
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than 1 per cent require special handling.



tablishments, shipbuilding yards, automobile plants, and other branches of durable goods production. Unemployment in March, 1954, reached 33/4 million or nearly 6 per cent of the civilian labor force. Once again, a cry of impending depression arose. After all, it was urged anxiously, we no longer had any widespread shortages, such as saved the economic situation in 1946. Nor did we have continuing unsatisfied demands for automobiles and housing, which had bolstered the economy in 1949. Therefore, so the argument ran,

the only way to prevent depression and mass unemployment was for the government to step in, undertake new and extensive spending programs, and finance these with borrowed money.

These counsels were not heeded. Instead the government concentrated on easing credit conditions, on reducing taxes, and on building consumer and business confidence. The depression that so many feared or expected did not develop. As early as the fall of 1953, a recovery began in financial markets. By the beginning of 1954, there were al-

ready abundant signs of increasing preparations for larger private investments.

More important still, retail sales resumed their rise, exports increased above the preceding year's level, and the ratio of inventories to the sales of both manufacturers and distributors began declining. By the spring of 1954 the decline of production abated and the nation's economy stabilized at a level somewhat below that of the peak of 1953. The gross national product, which expresses the dollar value of the total output of goods and services, was at an annual rate of \$356 billion in the first quarter of 1954 and it remained at virtually this level in the second and third quarters.

New Cry Heard

This favorable turn of events quieted fears of depression. But now a new cry arose, reminiscent of the doctrine of economic maturity which flourished in the 1930's. Our economy was moving into an extended phase of stagnation. Production would remain at present levels, or at best rise only a little. In the meantime, the labor force would increase while labor requirements per unit of output would diminish. For both reasons, unemployment would steadily increase unless the government got busy and increased its spending programs, or better still, both increased spending and reduced taxes once more.

This was again a mistaken diagnosis. The annual rate of federal spending, which had been declining at a rapid pace for some time, dropped another \$7 billion between the first and third quarters of 1954. In the meantime, every other major category of expenditure increased, consumer spending, private domestic investment, foreign investment, and state and local outlays. Thus, the stability of the gross national product during a large part of 1954 did not mean that our economy was standing still. On the contrary, it meant that the civilian part of the economy was forging ahead, expanding its operations, and taking up the slack caused by the continued reduction of federal spending. By the early fall of 1954 the forces of economic recovery had gathered sufficient For the first time in North America this swift, smooth, restful flight...



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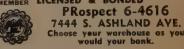
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In the course of these historical remarks I have kept referring to the stagnationist doctrine which has so consistently misled its exponents. The basic reason is that the anxious mood of the thirties, its lack of confidence, its servile dependence on government, its distrust of the expansive power or resilience of private enterprise, all these yardsticks are no longer applicable to our time. The face of our economy has changed under the pressure of powerful forces of economic growth.

Pace Marvelous

Advances in science and technology are proceeding at a marvelous pace. The plant and equipment of industry are being constantly modernized to escape the drag of obsolescence. The South is industrializing rapidly. The population of the country is growing vigorously. New techniques of consumer and business finance are developing. Home ownership is growing. The range of middle-class incomes is increasing. The pace of competition is quickening. Mass markets are emerging to match mass production for an increasing number of commodities. Beyond these developments in the private sphere. it is now the established aim of the federal government to pursue monetary, fiscal, and general housekeeping policies that will promote a stabler rate of growth than we experienced in the past. Public officials, as well as the general public, are relearning the old lesson that the government can create an atmosphere that is favorable to a high rate of economic activity by encouraging private initiative, by curbing monopolistic tendencies, by promoting the flow of capital into risk-taking channels, and by carrying out as much of its own work as is practicable through private enterprise.

Neither the theories nor the prescriptions of policy that ruled during the thirties are well suited to the conditions of today. During the 1930's the theory emerged that businessmen were a dynamic but rather troublesome group. In the first place, it was said that their investments were low because our mature economy no longer provided extensive opportunities for profit. In the second place, it was said that their investment outlays fluctuated violently because they rested on emotionally tinged estimates of a precarious future.

Placid Group

Consumers, on the other hand, were pictured as a placid group, as creatures of habit whose economic behavior was determined by their current incomes, and whose collective propensity to spend or save could therefore be counted on with mathematical assurance. Whatever validity this theory might have had in the 1930's, it is something of a caricature of the businessman and of the consumer of the 1950's.

The horizon of the typical businessman of today extends much further than that of his predecessor a generation ago. Today's businessman is apt to think in more ambitious, longer-range terms. watches his current sales and operations closely, but his principal aim as a broad rule is to build for the future, so that his firm will strengthen or at least maintain its competitive position five or ten years later. Hence, the managers of modern firms spend huge sums on research and development, they carry on advertising campaigns that will generate sales in the years to come. They embark on extensive programs to enlarge or modernize their plant and equipment. They maintain these capital expenditure programs as far as possible even when sales drop temporarily. And they judge the business acumen of their competitors by these yardsticks as much as by profit-and-loss statements.

But if businessmen have changed their ways, so too have consumers. The spending of our parents may or may not have been somewhat rigidly tied to their current incomes; that is surely not true of us. American consumers now have in their possession over \$200 billion in liquid assets, cash, bank deposits, and government bonds, on which they can draw, if necessary, to sup-

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plement their earnings. By and large, they have come to be considered as good credit risks and can buy anything from a suit of clothes to an automobile, a European tour, or a home on the instalment plan. Our consumer market has become a market for a large and widening middle class. A half, if not more, of our family units have annual incomes exceeding \$4,000 nowadays. In the middle thirties, even when we allow as we should for the difference in price levels, less than a fifth of the families enjoyed this income status. In 1940 about 40 per cent of our homes outside of farm areas were owned by their occupants. The corresponding figure today is close to 60 per cent. In the first decade of this century the value of the structures and equipment of business firms exceeded that of the dwellings, carriages, and household durables of consumers. Today the value of the plant and equipment of our households surpasses the value of business plant and equipment by about 30 per

Great Achievement

This huge expansion of consumer capital is one of the great and unique achievements of our economy. It is also a symbol of the constant drive within our households to improve living standards. Perhaps at no time in the past has the desire for material improvement played so large and pervasive a role in our economy as it does today. Moralists and philosophers may decry this tendency, but from a strictly economic viewpoint it is a progressive force. Many an alert businessman who observed early in 1954 how eagerly consumers sought out the latest contrivances and premium qualities was able to predict that we would not soon have an economic depression. As it turned out, consumer spending was the great sustaining force of our economy last year. Exceeding by 2 per cent what they spent during the boom year of 1953, consumers in 1954 defied the dire forecasts of the stagnationists, just as they had defied the forecasts of depression in 1946 and in 1949.

It is not so much material factors, but rather the current attitudes of businessmen and consumers, together with the emerging

tendance of governmental policy to steer a middle course between political extremes, that are the keynotes of our economic progress. The recovery that has been under way since last August is being supported by an underlying surge of confidence in our country's economic future. By the end of last December the recovery had already made up half of the decline that had occurred in industrial production during the entire contraction from July 1953 to August 1954. The gross national product which was at an annual rate of \$355.5 billion in the third quarter of 1954 rose to \$361 billion in the fourth quarter and the current rate must be still higher. When allowance is made for seasonal factors, we find that unemployment has been reduced by as much as 800,000 between August, 1954, and this January. Retail sales in December were 9 per cent higher than in December, 1953, and the spurt in consumer spending is continuing if we may judge from current reports on department store sales.

It appears, therefore, that the current economic recovery has momentum. How long this expansion will continue before another setback develops, or how far it will carry us, it is impossible to state with much assurance. But the outlook is favorable, at least for the months immediately ahead.

The recent sharp increase of housing starts, the rush of applications for federally underwritten mortgages, the increase of business incorporations, the upsurge of construction contracts, the increase in orders for machinery and durable goods generally, these varied indicators of investment preparations suggest a high and increasing volume of investment expenditures in coming months. In view of the resurgence of the economy of Western Europe, it seems likely that exports will continue to increase. The course of consumer spending will probably remain favorable for some time, although the consumer has a way of doing what he likes, no matter what economists may say.

Beyond these indications of short-run prospects is the program for promoting long-term economic expansion that the President has recently presented to the Congress. The President has recommended measures for keeping federal finances on a sound basis, for fostering foreign trade and investment, for improving the basis of our technology, for promoting the strength of small business, for accelerating the development of our natural resources, for expanding home ownership and improvements, for increasing public facilities on which the growth of the private economy is heavily dependent, and for helping individuals and families to meet the hazards of unemployment, illness, and blighted neighborhoods. If the President's recommendations to the Congress and suggestions to the states and municipalities are largely adopted, as now appears likely, we shall have taken another major step toward assuring sustained economic progress in our country and times.

Expression of Faith

The President's economic program is an expression of faith in the vast opportunities for growth and betterment that lie ahead of us. As far as the automobile industry is concerned, the proposal for a new national highway system is probably the item of greatest interest. If this proposal is accepted, we can start before long on a highway construction program that promises to give us within ten years a national network of safe, controlledaccess highways, capable of carrying the heaviest loads, operated under uniform traffic regulations, and joining the great majority of our cities with a population over 50,000. Many details of this program still remain to be worked out, but the President's grand concept is already a challenge to the imagination of businessmen. If history is any guide, a considerable volume of private investment in factories, shops, dwellings, and all sorts of service establishments is likely to be stimulated along the new highways or in their vicinity.

The market for new cars and associated goods would be lifted to higher levels and commerce would increase in a thousand directions.

Unless a feeling of optimism has excessively colored my sketch of recent economic happenings and projected policies, our nation's economic prospects and opportunities are broadly favorable, whether we think of what business may be like



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in the next few months or ten or twenty years from now. However, the immediate prospects of the different parts of our economy are not all equally good. Our farming industry is still suffering from the overexpansion induced by high and rigid price supports. Appreciable improvement of farm prices and incomes is unlikely until the effects of the legislation passed last year have become sufficiently felt and the enormous stocks in government warehouses are reduced. The coal and railroad industries are suffering from long-standing difficulties in maintaining their competitive position. And although the employment situation has sharply improved in recent months, there is still a sizable amount of nonseasonal unemployment in some communities. Most of them will regain prosperity as the current recovery cumulates, but some local unemployment may persist even when the nation reaches full employ-

These problems are receiving the continuous attention of the government. So, too, is the exuberance of some financial activities. In forming a judgment concerning the economic outlook, we may justly draw encouragement from the fact that our economy met rather successfully the test of stability of 1946, 1949, and 1954.

Curb Spending

We may justly draw further encouragement from the fact that the government has recently demonstrated a capacity to help check economic recession without embarking on huge spending programs and mounting deficits. No one can be sure how well our economy will meet its next test of stability. The outcome is likely to depend heavily, however, on the degree to which we succeed in preventing our confidence in the economic future from spilling over into overconfidence and unbridled speculation. We have been relatively successful in recent years in concentrating our efforts, as a people, on activities of production rather than on activities of speculation. If we can avoid the illusion that we are living in a new era in which the business cycle no longer has any place, there is a good prospect that we will continue to avoid economic depression.

Guaranteed Wage

(Continued from page 196)

continue paying five per cent of payroll into the fund. But, there is no payroll, so his obligation is at an end. When the fund is depleted, the employer's only obligation is to rebuild it should he again reopen his plant.

U.A.W. says it will permit reinsurance under its plan. Thus, the employer could pay premiums to an insurance company in lieu of making payments into a fund. The insurance company, then, would be responsible for necessary payments.

The plan at any plant would be administered by a board composed of employer and union representatives in equal numbers plus an impartial chairman. In multiplant corporations, joint plant and regional committees would be established under pooled plans.

Would Discuss Offer

This, basically, is what the C.I.O. wants when it talks of a guaranteed annual wage. However, Mr. Reuther graciously has indicated that the "union is prepared to discuss any practical program that industry has to offer."

Heretofore, any assured annual income plans in existence have been confined to relatively small concerns, some of which employ only a handful of men. No major ones have ever been located in consumer goods manufacturing industries.

The three biggest concerns to have such plans are in meat packing, shoes and in soap, industries which are relatively stable. These firms are George A. Hormel Company, Nunn-Bush Shoe Company, and Proctor and Gamble Company.

Hormel's plan, which covers about 80 per cent of its 8,600 employes, is far removed from U.A.W.'s air tight plan. Employes work overtime during busy periods without time and a half, then collect regular paychecks in slack periods. This helps balance out operations so that the plan isn't too burdensome to the company.

Even so the company was pinched by the plan last year. Recently, H. H. Corey, Hormel president, said: "We have paid out



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\$650,000 the last year to honor our annual wage plan, that is to keep the people employed who under the old time custom of letting a man go where there was no work for him, conceivably might have been let go . . . Everyone should know that our earnings have been reduced accordingly."

Despite record sales of \$331,821,-953 last year, earnings of this wellmanaged firm dipped to \$3.41 a share from \$5.73 a share in 1953.

The Nunn-Bush plan is based on a formula somewhat like that of a profit sharing plan. When earnings rise, a certain sum is deposited to each employe's credit in a fund. This fund protects workers' paychecks.

The Proctor and Gamble plan, in operation since 1923, assures 48 full paychecks a year to workers with two or more years' service. However, the company can amend this plan at its own discretion.

U.A.W. has studied all these plans, and has turned thumbs down on any sacrifice of time and a half for overtime, of tieing plans to earnings, or of allowing companies to revise plans at will.

Auto executives, today, are understandably reticent about publicly discussing something due shortly for the bargaining table. However, at the Chicago Automobile Show early this year, many officials were willing to talk off-therecord concerning flaws they see in U.A.W.'s plan.

Criticize Cost

Cost was criticized. In an industry like automobiles where 60 per cent of sales are made in the first half and 40 per cent in the second, inventory costs might jump skyhigh if companies ignored consumers and divided a year's production equally between the twelve months.

Effects on worker morale were questioned. If everyone gets a full pay check whether working or not, then it is more desirable to be laid off than to work. Normally, men with the lowest seniority are first laid off. Older fellows continue working. With the guarantee would older workers consider it fair to be kept on the job while younger fellows went fishing with pay? Net effect might be: Older and more highly skilled workers might claim a prior right to the layoff, while the inexperienced, new workers would be compelled to remain working.

Management's freedom to introduce labor savings devices might be sharply restricted, it was also warned.

U. A. W., itself, admits: "The guaranteed annual wage would affect management's decisions relating to technological advances. Corporations would avoid introducing new equipment at a time when major layoffs would result. They would try to gear the introduction of more efficient machinery to periods of expanding markets so that other jobs would be available for the workers directly affected by the new equipment."

Auto executives say, too, that major companies would try shifting the burden of the plan to sup-

plier plants.

Work would be farmed out during busy periods, and recalled in slack times. This might protect the big plant from paying its men for not working. Little firms would have a boom or bust operation.

Undaunted by such arguments, U.A.W. stoutly contends: "The annual wage shifts to the employer, where it belongs, the cost of unemployment."

It remains to be seen if employers will accept any more of this burden than they now carry as a result of unemployment compensation assessments.

Transistors

(Continued from page 29)

ics have only a small part to play in the evolution of complex switching systems. Transistors with their capability of high speed operation, their small bulk and low power requirements will find a natural application in switching apparatus.

Mr. Kelly added that he expected the transistor to have an important role in distributing television pictures to communities and improving long distance communication. And they will be used in TV sets

Norman B. Krim, vice president of Raytheon, which leads the nation in transistor output, stated that within four years 75 per cent

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4506 Lawrence Ave., Chicago 30 KIldare 5-7723 of data processing machines will be relying on transistors. He feels that their use in electronic computers will be one of their most important applications. The transistor already is being extensively used in digital computers. Some of these electronic "brains" employ as many as 9,000 transistors. Since they are not likely to fail they make for reliability. (When a radio tube burns out it may be quite a problem to find it among thousands.)

Some Possibilities

The transistor may make possible far more elaborate and useful computers than exist today. It also is expected to bring into realization electronic control systems which may take over numerous tedious tasks in industry, including all-electronic record keepers, robot inventory and warehouse control systems, automatic control for air and rail traffic, automatic utility meter reading and billing and many other functions.

Other commercial applications of the transistor already realized:

A low noise, high fidelity microphone replacing carbon mikes in aircraft and mobile intercommunications systems;

A portable audio frequency oscillator for ease in making field tests in telephone, broadcasting and similar fields where a bulky oscillator was previously required;

For hospital and factory paging systems in which a transistorized battery-operated receiver is worn by each person subject to call;

As a high-voltage supply, flashlight-battery-powered, for operating portable radio-activity measuring instruments;

A sound pick-up head for the amplifier of a film projector.

While the invention of the transistor is credited formally to John Bardeen and Walter H. Brattain of Bell Telephone Laboratories, Murray Hill, New Jersey, it was essentially a group project in which a dozen persons working under the direction of Dr. William Shockley, physicist of Bell Laboratories, participated.

"Scientific research is coming more and more to be recognized as a group or teamwork job," said Ralph Brown, vice president of the Bell Laboratories. "This is true not only in industrial research but to a rapidly increasing degree in academic research."

The transistor, he said, was the result of research in semi-conductors carried on under the direction of Dr. Shockley in which physicists, chemists, metallurgists, engineers, technicians and executives all



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played a part. Semi-conductors, unlike conductors such as copper, offer great resistance to electrical cur-

It had long been known that certain crystalline metals, including germanium, could be used in limited ways to vary electrical currents. Dr. Shockley's group found that if they took germanium, purified it, and added very minute quantities of exactly measured impurities they upset the metal's orderly atomic pattern. Only one foreign atom for each 100,000,000 germanium atoms is enough to do this, creating a restless structure full of sub-microscopic holes and homeless electrons, free to wander.

When a current is passed thru this metal it sets off what Science News Letter has called "a complicated game of musical chairs as the holes move like bubbles in a liquid and the loose electrons rush to fill the empty spaces. By controlling the distribution of holes and electrons they found they could make a current perform various stunts."

This is essentially what DeForest discovered much earlier, through the audion tube he could cause the current to amplify vibrations originated from a human voice, musical instrument, or any other source of sound.

Name Invention

Bardeen and Brattain called their invention the transistor because it is a resistor or semi-conductor device which amplifies electrical currents as they are transferred through it from imput to output terminals. Thus, it comes from "trans" plus the last two syllables of "resistor."

There is no need to go into the quantum mathematics (if we could) to explain this effect. However, it is an effect that can be demonstrated very simply. The Bell experts demonstrate it by taking a bit of blotting paper, chewing it, wrapping it moist around a 25-cent piece. When wires are clipped to this combination, the acid from the moisture makes a battery strong enough to operate a transistor sound-wave broadcaster. This suggests the possibility of tiny "survival radios" which would need no batteries or built-in power supply. They could be used by hunters, ranchers, campers and fishermen. A tiny bit of heat, perhaps even

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body heat, would be enough to power them.

Whether this happens or not is not of great consequence. What is important is that a new technology is growing around the transistor and a new industry, in all likelihood gigantic, will grow with it. The transistor probably will have a myriad uses not yet imagined.

Bell began its study of semiconductors, which resulted in the invention of the transistor, in 1945. The invention was announced in 1948. The transistor has been developed and perfected in the seven years since then. Already numerous types have been devised. One called the tetrode transistor overcomes the limitations of the first (junction) transistors, in its ability to handle the higher frequencies. Bell's transistor manufacture is concentrated at the Western Electric plant at Allentown, Pennsylvania, Raytheon's output comes from Newton, Quincy and Wal-tham, Massachusetts. Numerous other companies including General Electric Company and Sylvania Electric Products, Inc., are engaged in transistor development and production.

Electronic experts say that it is likely that this mighty midget (you can hold a hundred or more of them in the palm of your hand) may change our industrial pattern and way of life more drastically than atomic power. Only time will tell how great its role will be.

Air Purification

(Continued from page 31)

tain topographical conditions, polluting air can be blown back and forth over a city, causing intensified trouble. Los Angeles is a perfect example. Surrounded by mountains on three sides and ocean on the other, Los Angeles finds its industrial waste fumes hanging for days over the city, or stirred up a little by slight breezes off the ocean. Over a period of time, contamination can be multiplied 25 or 30 times.

Fortunately, Chicago has no such problem. The Windy City is regarded by experts as the cross roads of the nation's weather. Moving air almost constantly disperses industrial gases and smoke. Nevertheless, the 10,000 Chicago factories which

burn 25 to 30 million tons of coal every year do present a potentially serious air pollution problem.

The effort to control Chicago's air pollution began 74 years ago when the first anti-smoke ordinance was passed. Today a co-ordinated fight is being waged by more than 200 prominent industry and citizen members of the Midwestern Air Pollution Prevention Association. The roster also includes utility companies, city bureaus, railroads, engineering firms and university laboratories.

M.A.P.P.A. is currently spending \$100,000 to find out where Chicago's 150,000 tons of dust come from every year. This research includes a study of case histories of smoke law violations as well as regular analysis of airborne dust and smoke particles.

Profitable Salvage

These studies are pointing the way to profitable salvage of waste material which industries once let escape into the air. Perhaps the best example is natural gas, which was for years regarded as a nuisance around oil wells. Drillers let it escape or burned billions of cubic feet of the resource before its value was realized. Now natural gas provides heat and fuel for countless households and is a multi-million dollar industry.

More current examples of turning air pollution into profit are the reclamation operations set up by two Chicago concerns: R. Lavin and Sons and H. Kramer and Company. Together these companies spent some \$500,000 to install dust collection filters which capture more than six tons of zinc oxide daily as the by-product of a brass and bronze refining process. (Exact recovery figures are kept secret because the industry is highly competitive.)

The zinc oxide powder is sold to smelters for about two cents a pound, and officials of both companies say they realize a gross income of \$60,000 per year from this salvage operation.

One watchcase manufacturer in Dayton, Kentucky, salvages \$400 a day in gold dust through a collection system he installed.

"We simply could not operate today without it," he declares. "Some of our workers used to look like a



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bunch of Indians because they were all covered with polishing rouge and fine gold dust."

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Profit did not motivate the first air pollution control law proclaimed back in 1306 by King Edward I of England. He prohibited the burning of coal in London simply to reduce the haze or smaze, as it is now called, that hung like a pall of gloom over the city even then.

Today, 649 years later, more than 150 U. S. cities have air pollution prevention departments. Some 35 of these cities have ordinances against fly ash, 27 regulate fumes and gases and 17 have laws containing air pollution restrictions of one sort or another.

Six Basic Methods

Throughout the country six basic methods, or a combination of them, are used to keep the air clean. Industrial dust can be deflected through a bent exhaust tunnel, knocked out of the air with baffles, washed out with a water spray, spun out so it gravitates to the edge of a whirler and then drops out, filtered out with cloth sheets or bags, or electrocuted. (That is, dust particles are given an electrical charge and then attracted by physical force to charged plates.)

This is the most expensive method, but also the most efficient. An electrostatic system helped solve a big air pollution problem for Commonwealth Edison Company 15 years ago. Each day tons of fly ash were belching from the smoke stacks of the firm's generating plant. Engineers managed to trap 97 per cent of the ash, but they had no place to get rid of it!

They considered dumping the stuff far out in Lake Michigan, but vetoed the idea because the ash, as light as face powder, would have spread a fine film over a large area of water.

Then, through research, scientists learned that fly ash could be used to strengthen concrete. Somehow the by-product reduced shrinkage. When construction men learned about this a ready market developed for the fly ash. Since then the

company has sold well over 500,000 tons which have gone into stronger roads, into massive foundations of new Commonwealth Edison Company plants and into Chicago's newest skyscraper, the Prudential Building. Some 130,000 tons of ash helped build Montana's great Hungry Horse Dam.

Last year Edison sold more than 200,000 tons of fly ash at one dollar per ton. Eventually enough profit will be made from this operation to pay entirely for the fly ash disposal system.

A much smaller saving, but a real one, is reported by the William Wrigley, Jr., Company, which reclaims about 100 pounds of sugar every working day. One bag filter accomplishes this saving which amounts to more than \$1,500 annually.

Public Relations Value

The number of industries making dollars from dust is still relatively small. Most collection systems are installed to comply with local anti-air pollution regulations. Nevertheless, the intangible public relations value of cleaner air is considered important by many businessmen who feel this alone justifies the cost of anti-pollution equipment. Other benefits include better employe morale due to cleaner working facilities and improved health records because harmful impurities have been removed from the air.

In the last ten years the Union Electric Company of Missouri has spent more than four million dollars for fly ash control and other corrective measures to make St. Louis air cleaner. Previously the utility had been blamed for ten per cent of the dust that fell on this particular city. Company officials now point with pride to the fact that they are complying with the law. This has become an important point in its local public relations program.

As a result of the heightened interest in air pollution, millions of dollars are being spent on related research which is going on in 100 company and college laboratories, according to Dr. Rettaliata. These studies are pointing the way toward the solution of a problem that seems destined to exist as long as there is industry, air, and people to breathe it.

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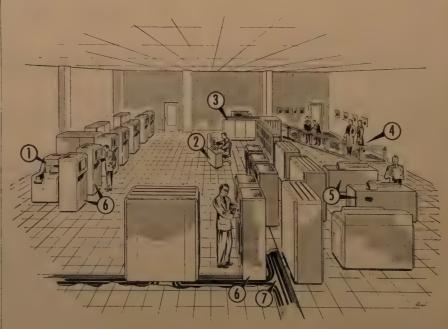
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AN "electric brain" that can read, write and make decisions as well as do lightning fast mathematical computations is going to figure out electric bills for the Commonwealth Edison Company.

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Besides speeding up the billing process, the electric brain will result in savings of about \$750,000 annually, Mr. Willis Gale, Edison Chairman, estimates. The number of employees in the billing section will be reduced from the present 470 to approximately 270. All the employees not required for the new



The interconnected units of the brain as they will be set up: 1. reading unit; 2. operator's console; 3. computing unit; 4. visitors gallery; 5. printing units; 6. magnetic tape units; 7. connecting cables.

operation will be transferred to other work.

The brain will be the first of its kind in Chicago and the first to be put into service by a public utility anywhere in the country. Ordered in April last year, it is scheduled for delivery in July this year. It will be installed in the Edison building at 72 West Adams St.

The brain is actually a number of interconnected units that read and write as well as multiply, divide, add and subtract. The units are all interconnected by underthe-floor cables. One man, sitting at a console, will have complete control over the equipment as assistants put on and take off rolls of magnetic tape, feed in paper stock and take away completed electric bills.

The brain can read at the rate of a full-length novel in six seconds and not miss a single letter in any word.

It can multiply faster than a person could write down the figures involved. For example, it will multiply 7,243,986,493 by 9,233,657,199 in four-thousandths of a second. The same problem takes the ordinary pencil and paper guy about seven minutes and then he can't be sure of the answer.

Memory Cells

The brain's secret weapon is its memory cells. Recorded on magnetic tape are massive amounts of information. It will remember the past record of a customer's bills; and if the one it just computed seems too high or too low, it will decide that maybe a new meter reading should be taken because something is wrong.

Or it will remember that Customer "A" didn't pay his bill last month and call for the amount still owed and add it to the new amount to show the total due.

Initially, the system will be used to compute and print electric bills for approximately 1,800,000 customers of Commonwealth and its Public Service Company Division. It will speed up the processing of bills so that they will be in the mail within two days after meter readings instead of the five days now required using conventional automatic business machines.

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located will be set aside for visitors who wish to see it in operation.

As Commonwealth issues most of its bills bi-monthly, the machine will process approximately 900,000 bills a month, or more than 40,000 a working day. To do this it will work around the clock with three shifts of operators.

The Brain has the staid title of "IBM Electronic Data-Processing Machine, Type 702." It is being built by International Business

Machines Corporation.

Emotions And The Heart

(Continued from page 38)

I have described, severe pain, great breathlessness, overwhelming fatigue. The fatigue was of such a degree that he couldn't walk to my office from his home although it was only a matter of four blocks.

He had given up his work completely. He had been examined by numerous doctors and various clinics. He had a whole bundle of elec-

trocardiograms.

He sat before me and described his symptoms. I examined him as carefully as I knew how and I said to him, "I find no evidence of organic heart disease." He looked at me kind of pityingly. He told me of the various authorities who had examined him. The electrocardiogram taken by Dr. A, for example, showed he had this little deviation; and he was to be reexamined in six months. How could he possibly have all this distress unless there was something the matter with his heart?

I knew from long experience that I could say, "You don't have heart disease." He could say, "I do." This could go on forever and

we'd get no place.

I knew that arguing with this man about the absence of organic heart disease would get us no place. Instead I tried to get him to talk about himself as a person. I brought the discussion around to his family.

He had inherited a small business from his father and had conducted it with the aid of a younger brother. But the younger brother wasn't much help to him. The younger brother was something of a ne'er-do-well. He was constantly getting into trouble and coming to

the older brother for help. The older brother could ill afford it but he had reached down in his pocket and helped the younger man just because he was his brother.

However, on one occasion the younger brother embezzled some money. As a result he needed a large sum of money immediately. He went to the older brother for it but was refused. It wasn't a long time after that when the younger brother died suddenly of heart disease. From then on the patient lived with the picture of his brother constantly before him, begging for help, which he had refused.

Shortly after that my patient developed fatigue, pain in the left side of his chest, shortness of breath and the other symptoms that I have enumerated. The background from which his symptoms arose is perfectly obvious.

Talking about that situation and bringing it out on the surface relieved his symptoms to a great extent. It's true he is not cured completely but he does function again and he is a useful member of society.

Anxiety

Important as anxiety is in relation to the normal heart, it is even more important in organic heart disease. While people with normal hearts who are anxious can make themselves and their families miserable, they can live out a normal span of years. The person with a diseased heart who carries a burden of anxiety may break down long before he ought to because it imposes a real physiological burden on the overworked heart. I have a feeling that there are many people who could carry on successfully with their diseased hearts if they weren't burdened with these additional problems. If we learned to deal successfully with these problems of psychological stress perhaps we could postpone some of these breakdowns.

We had an interesting problem of this kind at Temple University Hospital, Philadelphia. A large, florid woman has been in our hospital on more than 20 occasions in the past six years. She comes in with evidences of heart failure. Her body is swollen. She is short

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33 North LaSalle St. Chicago 2 of breath. She occupies a bed for a matter of two or three weeks while we apply the time-honored remedies that are used for heart failure-mercury, digitalis, morphine and oxygen. She loses 20 or 30 pounds just as though we had taken a sponge and squeezed it dry. This fluid is excreted and she feels better again. She leaves the hospital, is out for weeks, or a month or two, and back again she comes.

Our medical staff, particularly our younger medical staff, has been fascinated by this problem and a little bit disturbed by it. They feel offended that this woman won't get well and stay well from their scientific ministrations. Why does she keep breaking down and coming back again?

This case was brought up for discussion at a recent medical conference. There was a very learned discussion about the chemical factors that might have something to do with this problem. The viscosity of the blood, the blood volume, the blood gases, various profound and unusual diseases that might be affecting her in addition to her heart trouble; but there was no mention made of this patient as a person.

She came under our attention because we had been making a study in our hospital of patients with long medical records.

Her records showed that she had been coming to our clinic for years. She started out in the medical clinic. Then she was referred to allergy, to the nose and throat department, to the gynecological department. Finally she got lost. She was confused and bewildered and didn't know where she belonged. Hundreds of dollars worth of laboratory study had been done. There were numerous prescriptions and any number of entries saying that the patient was better or worse. However, no place in her voluminous record gave any evidence of this patient as a person.

Home Conditions

Here is what we found out. She lived with an only daughter, a single daughter, in a tiny apartment. At the time the study was made, the daughter's take-home pay was \$41 a week. Besides their normal living expenses they had the extra expenses that illness always brings.

The daughter was in her twenties. She couldn't spend any of her income for clothes or going out. She had a feeling of resentment toward her mother because of the sacrifices she had to make. The mother on the other hand felt herself a burden.

As a result of this atmosphere of constant tension, they would



clash. The arguments would bring about these attacks and the older woman would be back in the hospital.

There are many aspects of this problem. For example, we charted these breakdowns in relation to the daughter. We found that the daughter suffers from premenstrual tension. During that period of time she becomes irritable and difficult to live with. This is the time when she starts to fight with her mother, when she says the harsh things that she later regrets when the mother is in the hospital.

It indicates how involved a problem of heart disease can be. How many physical, medical, social, psychiatric aspects it can have and how unenlightened it is to approach this patient's problem simply by bringing her into the hospital, giving her medicines and sending her out again.

Now what about blood pressure and anxiety? High blood pressure is one of the commonest disorders of civilized life. It can almost be called the American way of life. It results in the greatest burden of heart disease. After it has run its course, of several years to a decade or more, changes occur in the blood vessels. These, in turn, produce changes in the vital organs, until death is brought about.

Little Known

We don't know a great deal about this very common disease in spite of the fact that there has been a tremendous amount of research in recent years. It seems all of our past progress has been in hundredyear cycles.

The circulation of the blood was discovered in the 1630's by William Harvey. It was in the 1730's that the phenomenon of blood pressure itself was demonstrated. An English pastor put a cannula in the vein of a horse and watched the blood pressure mount. It was in the 1830's that Richard Bright, a great British doctor, found a relationship between disease of the kidneys and the evidences of high blood pressure in the body. We still speak of Bright's disease.

It was in the 1930's that Dr. Harry Goldblatt, of Cleveland, demonstrated that you could reproduce in an animal a disorder

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which closely approximated this condition in the human being. Since that day there has been a great deal of research.

I have a suspicion that one of the next great advances is going to be in the field of the emotions and high blood pressure. I only hope we don't have to wait until the 2030's for it.

Our very concern with these physical problems in high blood pressure, however, has narrowed our focus on the disease to the exclusion of the emotions. Yet we all know that patients with high blood pressure are anxious patients, that their anxiety has some relationship to their high blood pressure. For example, the doctor knows he has to make certain allowances for the blood pressure reading the first time he sees the patient. It's going to be higher than it will be later when he gets to know him.

We say to a friend who is about to get angry, "Now, watch your blood pressure," referring to the mounting anger which is going to manifest itself in that way.

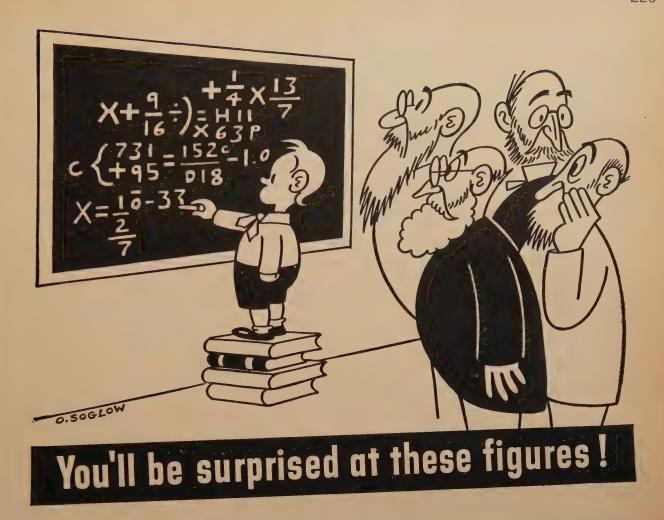
Have Seen Reactions

We know that periods of stress cause aggravations of blood pressure. Many astute clinicians have had the actual experience of watching heart attacks follow upon the emotional traumatic experience that occurs in patients with high blood pressure. So we have learned something about the fact that there is a relationship between the emotions and high blood pressure, but what is it?

A few years ago a middle-aged woman came to see me with severe headaches and high blood pressure. Her physician had sent her because he thought the headaches had been due to high blood pressure and he couldn't do anything about it.

This is a very common problem. Headaches, dizziness, vertigo, digestive disturbances, all kinds of symptoms occur. The doctor slaps a blood pressure cuff on the arm and says, "It's your blood pressure." It's so easy to do that.

It's so difficult to sit down and get to know a person, to find out some of the real problems that are disturbing him and which may be



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1020 Greenwood Avenue Waukegan, III. • ONtario 2-1174 entirely responsible for the symptoms, which may have nothing to do with his blood pressure. This is one of the problems in blood pressure treatment as well as blood pressure research, the question of making misleading deductions, believing things to be casual or related when they are not.

This particular woman who was sent to me had had all of the physical and laboratory studies routinely employed with high blood pressure patients. The only thing she hadn't had was an opportunity to talk about herself as a person.

After reviewing all of these measurements with her, I told her I didn't think her headache had anything to do with her high blood pressure. I also told her that high blood pressure, in medical language, is called "hypertension," and that tension has something to do with hypertension. She thought that over a moment, and then said, "Well, doctor, I think I can improve on that formula. In my house it's contention, tension, hypertension."

Buffer Role

She went on to tell me of the role she played in her household, a kind of buffer role between an irascible husband and an only son who was in business with him. They brought their business troubles home and fought over the dinner table. She played the role of buffer between them, a martyrlike role in which her sympathies were with her son. She tried to shield her son. She absorbed the punches that were traded between them. That kind of person can absorb a lot of punishment but there is a breaking point and symptoms are bound to occur.

Her symptoms were her headaches. It was just as though she were to say, "My husband is a headache to me." And, indeed, he was. Talking about this problem relieved her headache but didn't take away her blood pressure. However, it did help her to live with her blood pressure and that is a very important problem for us to learn about.

Doctors have got to learn to look for the person in the patient. This goes for industrial as well as

civilian practice. Business doesn't hire a pair of hands, alone, to work for it. If that were all, machines could do the job. Companies don't hire brains alone when they select executives. They hire a man with all of his problems and the tensions that arise from those problems. Those tensions have to come out somehow. They are like steam under pressure.

I make this analogy quite frequently in talking to people. I say, "You're like an engine with your steam up. If it doesn't come out in productive work; that is, with the wheels going around, or if your whistle isn't blowing, that is in talking about your problems, then it's going to part your seam." This tension has got to come out.

In people it comes out in productive work, balanced by relaxation, or it short-circuits into the body and disturbs the way the body functions. So often the circulation will manifest this tension. If it happens to be a diseased heart, it will crumble prematurely.

There are only two conclusions. Physicians must study man as a person and not just as a machine. Employers must hire men not as machines but as human beings, possessed of loves and hates, urges and passions that can disturb the body as well as the soul.

Foreign Trade

(Continued from page 58)

become officially a port of entry. The new status for the airport will bring full-time manning of the federal offices there. At present customs and other inspectors are at Midway only to meet international air carriers by appointment. These carriers now must have prior permission to come to Chicago from outside territorial limits of the United States. The air carriers must file prior notice of arrival time, passenger lists, and information on the plane, cargo and crew.

All of this procedure will be waived after Midway is designated as an official port of entry. About \$50,000 is being spent by the city to enlarge and remodel the north wing of the old terminal building at 6200 S. Cicero Ave. This program will provide necessary facilities stipulated by the government for an official port of entry.

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Described as "more delicate than brain surgery," the new construction, developed by the Elgin National Watch Company, calls for the inner end of the hair spring which has one-fifth the thickness of a human hair to be cemented to the spool around which it is coiled. The cementing is done under a microscope. The same stress-free technique is used to attach the outer end of the spring to a stud about one-fourth the size of a pinhead. A magnified picture of the hair spring and a common straight pin appear above.

Previously both the spool and stud had small holes into which the spring ends were anchored by means of pins, a method that distorted the shape of the spring and permanently impaired its efficiency.

The hairspring controls the rate the hands of a watch move. If its beat is off, the watch is fast or slow depending whether the spring beat is fast or slow. In most modern watches the beat comes five times per second. By eliminating hairspring stress at the outset the rate change normally expected to occur when the watch has been broken in is lessened.

Tree Farming

(Continued from page 33)

of these developed into commercially valuable trees, but indiscriminate clearing for necessary agricultural purposes often put into production land which should have been left in forest.

Such areas plus the wood lots which mark every farm, abandoned land, reclaimed land, and the like are the basis of tree farming. The name, as used by A.F.P.I., has a special meaning. The owner

must be able to answer "yes" to these four questions:

Is the woodland privately owned?
Is it being maintained for the growth and harvesting of commercial timber crops?

Is it adequately protected from insects, fire, disease, and destructive grazing?

Are cutting practices such as to insure repeated crops of merchantable forest products?

If the answers are "yes," the landowner merely contacts his state forestry division or the A.F.P.I. in Washington, D. C. At a special ceremony, the land is certified as a tree farm and the owner is given a road sign for identification. So long as the answers continue to be "yes," the certification stands without benefit of dues. If a "no" creeps in, the certificate is withdrawn without fanfare or embarrassment.

Began in 1941

All this began in 1941 with one of the giants of the lumber industry, the Weyerhaeuser Lumber company. In 1941 the company was brooding over what to do with 120,000 acres of land in the Douglas fir region of Washington state. A large share of this was cutover land which Weyerhaeuser wanted to get back into production.

The major problem involved was the danger of fire. Company foresters had initiated an extensive road and telephone line building program which served as fire breaks as well as communications, but public cooperation was vitally needed to reduce fire danger. Someone in the recesses of the company hit upon the "tree farm" title as a means of dramatizing the problem. It connoted something far different than an ordinary woodland; it meant cultivation by man-and the idea clicked. With the cooperation of an interested public fire losses on the plot were cut to a minimum, making it possible for Weyerhaeuser to carry out an extensive program to bring the land back into full tree production.

This idea spread through Washington and Oregon, first privately then under aegis of the National Lumber Manufacturers Association and then on to Alabama and Arkansas. From that point, the American Forest Products Indus-



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tries, Inc., representing all segments of the industry, took over coordination and promulgation of the plan.

Logical Target

Since 57 per cent of the existing forest land of the nation is in the hands of small owners as opposed to 18 per cent industrially owned (25 per cent is in Government hands), the small landowners were the logical targets of any program to increase wood supplies. Today there are 33,963,513 acres of privately-owned taxpaying lands certified by A.F.P.I. as tree farms. The ultimate aim is to have all of the country's forest land, 344 million acres of privately owned land, operating as efficient tree farms.

The national economic significance of all this is indicated by the history of the Lake States farmer who has harvested \$4,800 worth of hardwood from his 80-acre tree farm every five years. He expects to continue such harvesting in future five-year cycles. That averages slightly under \$1,000 per year-a substantial cash addition to his farm income. He also has harvested such farm necessities as fence posts and firewood from the same acreage. Multiply such an addition by the number of acres now in the tree farm program, and you can begin to get some indication of what tree farming means to the nation.

But there is an even greater, more important national meaning. The farmer involved in this episode reports that the 80 acres of land are in better biological condition than when he began 14 years ago. They hold water better and consequently check eroding runoffs. They offer better shelter to wildlife. They check wind erosion. All are problems of the utmost moment in the management of America's national resources.

A story from the South makes this conservation function even more apparent. A cotton farmer, 15 years ago, abandoned some sloping, gullied land as worthless. With no effort on his part, the idle land grew up with seedling pines. Last year he sold several hundred dollars worth of pulpwood off the "worthless" land. Despite the in-

advertence of his status, he now is a full-fledged tree farmer.

Economics as ide, supposedly worthless land has been returned to a productive purpose. Since the erosion which made it worthless has been checked, it is being rebuilt naturally. Put against that the fact that America every day loses to water erosion the equivalent of two 180-acre farms and again you can see the significance.

Trees are one of the most important methods of conservation, whether they be in magnificent forest stands or merely on the back forty. Their leaves halt the battering pound of rain on the topsoil. Their roots hold the soil in place. Their branches and trunks check the wild drive of wind, often as dangerous to loose soil as in the unfettered rush of water. Their refuges shelter wildlife. Were one to make a careful correlation, there might appear a relationship between the return of such scarce animals as beaver and the growth of tree farming.

Scientific Management

Essentially, the basic idea of tree farming is scientific management of a great natural resource. Selective cutting, harvesting, is necessary to sound forest management since it removes trees at their point of maximum growth while leaving adequate space for oncoming generations. Similarly with insect control, insects do more damage to forests than fire does. The bark beetle alone has destroyed an estimated \$125,000,000 worth of timber in the past 20 years.

In other words here is a booming, vibrant new business, suitable for large or small operations. Added to the oldest business of mankind, it turns a neat profit. It adds importantly to the nation's supply of raw materials. It helps conserve vital resources. What more could be asked?

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(Continued from page 34)

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the sake of becoming college graduates has grown, several fundamental changes in our educational system have developed. It is a major problem for our academic officials to accommodate for four years those students who are not possessed of the intellectual capacity and desire for real college work. One means of meeting this problem is the expedient of padding out the curriculum with so-called snap courses. These are naturally most attractive to these seekers of degrees who are either lazy or incapable mentally. At the same time, since many subjects which are properly of high school level are now being offered in college, there is a tendency to lessen the quality of instruction in our primary and secondary schools by the insertion of non-intellectual studies. This padding process in turn necessitates the introduction of more secondary school courses at the college level.

Startling Results

The results of our drive to produce a nation of college graduates have been startling. The price of indiscriminately conferring more degrees on more people and thereby raising our over-all average level of scholastic attainment in point of years spent in school, has been an actual reduction in the number

of those graduates who are capable of doing advanced study in the scientific and technical fields where they are so badly needed today. And as we dilute and diminish our intellectual upper strata by substituting quantity for quality, we also destroy our principal source of teachers capable of going above and beyond the level of average mediocrity.

Educated Americans

In 1900, 4 per cent of our people of college age received higher education. By 1950, this figure had climbed to 30 per cent and it is still rising. But although we have increased our proportion of college graduates more than seven fold, we have not obtained a commensurate increase in our production of educated Americans. Some measure of the change in the quality of our educational system can be had by considering that in 1900 nearly 75 per cent of all high school students studied a language. Today only 25 per cent do. In 1900, 50 per cent studied Latin. Today 7 per cent do. In fifty years, our high school enrollment in algebra has dropped from 56 per cent to 20 per cent; in geometry, from 25 per cent to 12 per cent; and in physics, from 19 per cent to below 5 per cent. With such limited and diminishing quan-



"You've grown old and gray in our service . . . We can't have that, you know!"

tities of raw material to work with, how can our technical schools be expected to turn out the ever-increasing number of scientists and engineers and teachers in these professions which we require?

Let me go into the details a bit. When I was in high school - and that was only a little over 40 years ago - the average boy who expected to go to college took three to four years of mathematics, two to four years of Latin, two to three years of another foreign language, four years of English, one or two years of history and two years or more of science. It would be a rare circumstance if a high school student were to do that today.

Furthermore, when a boy entered high school he was already well grounded in arithmetic, American history and English grammar. That is not true today as we all know, again due to insistence on quantity over quality. Thoroughness in fundamentals was basic in our educational system.

Shortage of Teachers

The shortage of qualified new teachers which our present system engenders is a most serious aspect of the over-all problem. Poor students beget poor teachers who produce poorer pupils. In the four years since 1950, the number of college graduates qualified, in the opinion of the educational authorities, to teach in high school has dropped 36 per cent and the number qualified to teach high school scientific subjects has fallen 48 per cent. In the near future we will have an annual requirement of 10,000 new science teachers, while our colleges will be producing qualified candidates at the rate of only 5,000 per year. This trend bodes ill for our future in the Atomic Age.

It is quite true that we have been placing more and more emphasis on the theories of education, rather than on the subjects which the teacher-to-be is to teach. But after all, we have accepted this under the leadership of our educators as

the best thing to do.

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5729 S. Western Ave. Chicago 36, Illinois HEmlock 4-3600 population of only 22 per cent during that period. Our standard of living is being raised at an accelerating rate with respect to our population growth and there is every reason to expect this trend to continue. But what tangible incentive is there for a boy to be an engineer under an economic system which 35 years after their graduation from high school provides the average plasterer with greater accumulated earnings than those of the average civil engineer? Under such conditions, the seeker of security will elect to be a plasterer every time. So where will we obtain the scientists and technicians to maintain our present progress while our population grows to an expected 204 million by 1970? Certainly not from our present school system.

Serious Situation

Thus we are confronted with a serious, and in some respects a frightening situation. Our massive educational system is reaching a point where it lacks the bone and the sinew of education - which is the inspiration it must transmit to youth. It is capable of turning out happy, presumably well-adjusted graduates who cannot hope to carry on the rigorous task of leading America in a free world. We have indeed achieved standards in our sciences and engineering of which we all may be proud, but so have the Russians in many of their fields of endeavor. How long can we expect to survive if our present annual production of engineers is only 20,000 and not increasing, while Russia's is 54,000 and constantly increasing?

Some seek solace in the generally high quality of our engineers and scientists, but the Soviets turn out good work too. Our hope and salvation lies in increasing the quantity of high grade production from our technical schools. This can result only from a general improvement of the quality of American education at all levels. We must, in our schools, begin to deny ourselves a few of the luxuries and increase our portion of the necessities of science and mathematics and those liberal arts which are necessary to and which inculcate the elements of leadership.

But in addition to these obvious

symptoms of America's educational disease, there are others which are not so generally recognized. For one, the decline of the study of United States history in favor of the one-worldisms of the United Nations is analogous to the decline of the family in Communist Russia. I am truly distressed when I read in the results of a test given the freshman class of one of our large universities that most members of the class believed that Alexander Hamilton was the producer of watches. The military services have found that the unit which is proud of its past will perform well in the future. The quality of esprit de corps is much sought after by commanders. Our nation, too, has a history of which we all ought to be proud, but in recent years our groping for security, and the admiration of many of our national leaders and of many of our teachers for the so-called ideals of the Communist and the Socialist have led us to play down our past achievements as being somewhat shameful in the interests of being more like the other nations of the world. We have fine traditions. Why should we deny to our children the sustenance they will lend them in the difficult tasks they face?

Physical Characteristics

And the coming of the automobile, of television and of other twentieth century forms of locomotion and amusement have made serious inroads on the physical characteristics of our nation. One has only to consider the alarmingly high number of rejects culled from the draft and the difficulties encountered by many of the trainees to realize that our people are getting dangerously soft. Although we hear much talk of push buttons and guided missiles, the fact remains that the women who survive any heavy bombing of our cities will be the ones who walk out of the rubble, and the men who finally win the wars of the future, may well be, just as in the past, the ones who walk in and occupy the enemy territory. We must make our people more rugged physically and the place to start that toughening-up process is in our junior citizens of school age.

We must not stake our future existence on the premise that wars



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of the future will be ended by atomic attacks alone. The element of the unknown will not be present in any future atomic war — as it was in the past. It was an element that we worked so hard to achieve at Hiroshima. Both sides in any future war will have planned for such attack both offensively and defensively, and the people who have the courage and the stubbornness and the reserve power to get up after being knocked down are the ones who will win.

Military Education

One of the results - and a most unfortunate one - of our trend towards stereotyped educational methods designed to produce an average, uniform product has sprung up in our military education system. Prior to World War II, we possessed the finest military school system in the world, as was amply demonstrated by the invariably high standards of leadership it produced. But World War II demands and unwise decisions during the subsequent cold war placed a terrific strain on this system and, as a result, courses that formerly had been remarkably free and broad in scope became standardized, stereotyped and sterilized. Today all things military are taught by the numbers, and those traits of intelligence and inspiration which set the great commander apart from the average are not developed by such means. Such instruction led us, in an era of nuclear weapons and guided missiles, to devote a major research effort to the development of an atomic cannon. It may well cause us to plan for a kind of atomic warfare which would be restricted to the battle zone only and would not consider the possibility that the industrial and communications system upon which it is based might be badly damaged or destroyed without warning by an enemy atomic attack. We will not accomplish our national purpose if we limit any improvements in America's educational system to its civilian side. The military, too, must be freed from its enslavement to conformity. That fine line which separates discipline from uniformity, mediocrity and defeat, must be carefully redefined so that there can be no question about what we are developing in the schools of our Armed Services.

In this connection, let me refer to a comment of President Eisenhower in his budget message to Congress. He spoke of "a revolution in military concepts" that is currently taking place, and that puts "an extra premium on military leadership."

Military commanders of today must be qualified to consider intelligently, and not blindly, the highly technical problems and recommendations of their technical advisors — whether these advisors are officers with many years of military service or young Ph.D.'s with great capabilities in their specialized fields of knowledge — but with little experience in other fields.

Unfortunately, in the selection of the Army's general officers for command and higher staff duties, the most desirable attribute seems to be that the selectee have had experience as a battalion commander of Infantry. The ability to understand the technical advances of yesterday, today and tomorrow is not a requisite for selection, and appears in some cases to be almost a bar to consideration for higher appointment.

Engineer Officers

Engineer officers seem to be banned in spite of the fact that the two greatest generals of our history, in the opinion of many of us — Lee and MacArthur — were engineer officers. And General Washington, the general officer who most nearly approaches Lee and MacArthur in stature, was an engineer by training.

I know personally that General MacArthur has a ready grasp of the highly technical angles of the advanced weapons of today. I am sure that Lee, with his capacity for mathematics and engineering, would have been equally at home in modern science.

I wonder sometimes if the aim is to get general officers of the qualities of Lee and MacArthur, or generals with the qualities of "Fighting Joe" Hooker or Burnside.

These two were good subordinate commanders, but they failed badly in the large independent com-

I feel that the Army should do what it used to do – and what all

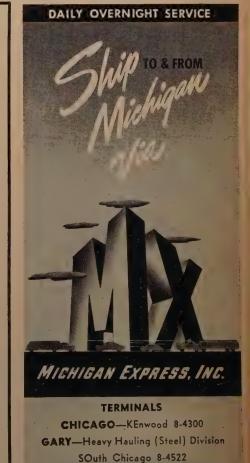




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The Navy and the Air Force seem to be moving in the right direction in this regard, while the Army is moving in the opposite direction.

Like all responsible American Army officers, I have always believed in civilian control of the military establishment. I must admit, however, that this belief has been shaken a bit since the War. I have seen this control reaching down from broad policy into detailed operation. It is a serious mistake to extend controls so that authority and responsibility are no longer in the same hands.

No Changes

Between V-J Day and the time I retired from the Army in 1948, that was rapidly becoming the case. And I would judge from reading the Washington dispatches that there have been no noticeable changes since then.

The efficiency of the Army and of the other Services has also been damaged by frequent statements made by civilian officials of the Defense Department, which were critical of our military officers as a group, without any sound justification of such criticism.

Recently one of these statements appeared in print to the effect that not a single officer could be found in the technical services who was qualified to serve as Deputy Chief of Logistics.

If this were true—which it is not—we would indeed be in trouble, for it is in the technical services that logistical experience is gained.

These are detailed and specific problems that we face today, but they stem in general from the basic educational problem we have discussed — which is: How can we reorganize our educational system to provide the kind of intelligent leadership and capacity for broad policy decisions that we need today?

As we adapt our schools to meet today's demands and produce the

required numbers of trained journeymen, technicians and scientific and professional specialists, we cannot lose sight of the continuing need for providing a broad liberal education for a sizeable segment of our citizenship. The more specialists we develop, the greater will be our need for individuals who are capable of seeing and thinking beyond the narrow confines of any single specialty. We must continue to look to our liberal arts colleges for many of our nation's leaders of tomorrow.

Reward Talents

So, our basic problem in educating America for the Atomic Age is simply one of how to break away from the mean; how to find; develop; and reward those talents of our people that we most need; and how at the same time to maintain and improve those qualities of our entire citizenship who so uniquely fit America for her place of leadership in the world. The Soviets are presently addressing themselves to the first phase of this problem with more success than we, but under their form of government they can never resolve the second. Of all the nations on the earth today, we, and we alone, are capable of meeting both criteria.

Our national economy and our national defense depend upon our ability to meet both criteria. If we do not meet them, a gradual deterioration of our technical capabilities will take place, and as a nation we will fail to meet the challenge of this new age.

Let me explain how this deterioration takes effect. When the number of qualified engineers, for example, falls off, there is a natural thinning out at the top. Men are pushed into engineering jobs who are little more than draughtsmen. This results in fewer qualified men reaching the top, and without adequate leadership, the general qualifications of the profession are diluted.

This will have a serious effect upon our military installation, because a number of the best qualified men will be siphoned off into industry — where the demand will always exceed the supply.

Unless steps are taken to balance the situation, the military engineer-

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ing organization will suffer first — and suffer most.

The basic solution, of course, does not lie merely in priming the pump from time to time in order to inject new life into our engineering system — such as additional compensation for military service to equalize the benefits enjoyed by civilian engineers. It lies in a fundamental reorientation of our educational system to its responsibility for producing good men — not merely good engineers, but good men in every branch and phase of our economy.

This is a responsibility that we cannot long neglect, or the time for action will have passed. We cannot produce properly qualified men overnight—and the basic foundations of education are not laid during the years of maturity. They are laid with the first cornerstone of education—the elementary schools and the high schools.

Acute Problem

Each passing year renders the problem more acute. Each year brings us closer to the rest of the world. England was saved from Napoleon by the English channel in the nineteenth century; and in the first quarter of the twentieth century it was bombed by German dirigibles — and in the second quarter of this century it was blitzed by planes. With a little better management by the Germans, England might have been destroyed by guided missiles.

As the range, size and accuracy of guided missiles and aircraft increase, we find our surrounding water barriers evaporating. We can no longer remain passive behind them. And if we are to be successful in our bid for world leadership, we must have an educational system that is hitting on all cylinders which will turn out the individuals to lead us.

To berate and castigate the educators will never achieve this end, for they are merely instruments for carrying out our responsibility for educating America's youth. All of us—not just the teachers—brought these children into the world. The responsibility for preparing them to live in it is ours. If we are not satisfied with the end product of our school system, we must improve

that system to meet the challenge of a new age.

Shall we continue through the Atomic Age our proud tradition of a strong and free America whose material and spiritual attainments are the inspiration of the world?

Or shall we deliver up a generation of crazy, mixed-up kids who someday will stagger bewildered from the smoking ruin that was our civilization and ask—as did Antigone: "From what manner of parents did we take our miserable being?"

The choice is ours – yours and mine.

Foreign Policy

(Continued from page 26)

to countries not in the military program, like India.

Technical (Point IV) assistance designed to give know-how guidance so that a country can make developments of its own.

In addition to the above forms of aid, the Administration is expected to promote use of Export-Import bank loans for specific projects, as well as International Bank loans. Ex-Im has some \$1.5 billion of loanable capital right now.

Only One Facet

All this, however, is only one facet of the whole Eisenhower foreign economic program. With Dodge at work on details, the President mentioned it only briefly in his special message to Congress on January 10. The remainder of the program is equally important to the world position of the United States. The President appointed Clarence E. Randall to a temporary White House job with the mission to lobby it through Congress - another demonstration of the importance he attaches to the economic side of foreign relations. Randall's recommendation for a three-year extension of the reciprocal tariff program is at the head of the list. Other features include:

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U. S. participation in foreign trade fairs — a hitherto neglected opportunity for U. S. business to advertise the products of the free enterprise system in competition with Communism.

The real test of the Administration's foreign policy will come, however, in how much of this is actually put into effect. Foreign nations' acceptance of U. S. leadership depends on America's deeds, not on the writing down of objectives, however worthy.

Reciprocal Trade

Prospects for extension of the reciprocal trade program by Congress are good. But the President's request in this field is considered very modest, and the relaxations are not enough to free trade or even provide much expansion. A more severe test of American willingness to promote trade all over the world is represented in negotiations which began at Geneva, Switzerland, on February 21, There the U.S. and Japan are discussing a new trade agreement which poses the question how far the U.S. is willing to reduce tariffs in order to create overseas markets for Japan.

Industrial Japan is the prize of our cold war with Russia in the Far East, just as industrial Germany is the prize in Europe. Germany has come back strong, supporting itself and competing vigorously with Britain. Japan, now on our side, must be given a chance to create for itself a viable economy or inevitably it will have to seek trade outlets in Red China.

The Geneva negotiations involve such products as textiles, crab and tuna meat, fountain pens, thermos bottles — just about all the products Japan shipped us before World War II. The State Department hopes to make the new trade agreement the basis for a multilateral lowering of tariffs designed to bind Japan's markets to those of the free

(Continued on page 253)

New Products

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said to feature extra heavy and oversize construction of levers, pivots and bearings made of specially tempered steel. It incorporates a two-lever understructure with machined-in tapered shank pivots.

Protects Stairs

Nutting Truck and Caster Company, Faribault, Minn., is making a new line of trucks equipped with non-mar and easier operating-stair glides. The glide assemblies have rubberized fabric V-belts which keep stairs from getting damaged and permit easier and smoother movement parallel to slope of curbs or stairs.

Polyethylene Bottles

Polyethylene bottles and storage jars, featuring heavy-wall all welded construction, and designed for handling acids and other corrosive liquids, are offered by American Agile Corporation, P. O. Box 168, Bedford, O. These bottles are said to be important for applications where the elimination of permeability in handling inorganics is a factor.

Small Paper Cutter

Michael Lith, Inc., 145 W. 45th Street, New York, N. Y., is offering a paper cutter that will cut paper and trim jobs up to 14 inches. It is engineered along the lines of the larger size cutting machines used in the graphic arts and printing fields and sells for \$198.

Miniature Variable Capacitor

A new miniature variable capacitor especially designed for transistorized radio receivers is being offered by the Radio Condenser Company, Camden 3, N. J. Smallest in the company's line of variable capacitors, the new unit includes two variable sections, oscillator and radio frequency, both nested in a formed aluminum frame with trimmers on the bottom.

Resin Base Paint

A thermoplastic, resin base paint that is said to contain the most efficient inhibitor known for the prevention of rust and corrosion is being produced by Corro-Vent Inc., Cincinnati, O. It is designed for use on structural metals. Prices range from \$1.05 for one quart to \$163.50 for a 55-gallon drum.

Putty in Tape Form

A plastic putty in tape form for factory, industrial plant, and institution skylights is being made by Fennia Laboratories, Franklin Park, Ill. Called "Mend-O-Lastic



Adhesive Bar Cap," the compound is dark green in color, plastic, and non-hardening. The tape itself is 17/8 inches in width and comes in a roll containing 121/2 feet. The putty is mounted on non-corrosive metal foil. The 121/2 foot roll sells for \$2.00; a carton containing 100 feet, \$12.00.

Flexible, Liquid-tight Conduit

The Universal Metal Hose Company, 2133 S. Kedzie Avenue, Chicago 23, is marketing a flexiblemetal, electrical wiring conduit fully enclosed in a waterproof, synthetic cover. It comes with a black synthetic cover with square locked construction, galvanized steel core, aluminum wire wound on sizes 3/8 to 3/4 inches or with a gray synthetic cover in conduit sizes 3/8 to 2 inches. It is said to be ideally suited for applications requiring flexibility for connections in tight places, for connecting wires on machinery constantly operating in excessive oil or moisture and for applications of extreme vibra-

Safety Device for Elevators

An electronic device that prevents overloading of passenger or freight elevators is being manufactured by Thompson Elevator and Electric Company, 2756 W. Superior St., Chicago. The device is mounted on the elevator cab. It gives a signal when a predetermined load limit is reached. If the elevator is overloaded, the device electronically prevents the elevator from moving. It resets itself when the overload is removed.

Molded PVC Valve

The Lunkenheimer Company, Cincinnati 14, O., is producing a line of all-molded PVC valves and fittings. Registered under the name "Luncor," the valve is made of polyvinyl chloride and is said to resist most chemicals used in industry. It is molded in rigid form, suitable for pressures up to 125 pounds and 150 degrees temperature. Besides the valve which is presently available in a Y-type globe design, the complete "Luncor" line consists of piping, caps, couplings, plugs, unions, reducing

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Fiberglas Panel

A new kind of translucent fiberglas building panel with a scientific heat-blocking ingredient is being marketed under the tradename "Steplap" by the Alsynite Company of America, San Diego 9, Cal. Designed specifically for such outdoor overhead uses as patios, sun porches and car ports, the panel is said to block out the sun's rays. It is available in standard widths of 411/2 inches and 311/2 inches and lengths of 10-1/3 feet. The panels consist of a series of steps five inches wide and one high. At each five-inch lap there is a one-inch flat surface that lies flush against the supporting framework for perfect fastening, increased load strength, and permanent structural integrity.

New Casting Process

Howard Foundry Company, 1700 N: Kostner Ave., Chicago, is casting microwave plumbing with a new method called the Ellis process. It combines the techniques of both the plaster and investment casting processes. The Ellis process is said to simplify production of complex, intricate parts usually considered castable only by the investment process. With the Ellis process, Howard has obtained castings with as-cast finishes ranging from 10 to 20 microinches. A maximum of 30 microinches is consistently obtained in production. As-cast tolerance for the new process runs plus or minus .0015 inches.

Digital Cycling Counter

A five-bank digital cycling counter, suitable for counting events, measuring frequencies, determining RPM, and other similar basic measurement applications is being made by Brush Electronics Company, 3405 Perkins Avenue, Cleveland 14, O. The counter equipment consists of an amplifier at the input, together with a shaping circuit for converting the input information into trigger pulses suitable for driving high speed electronic counters. By proper choice of time intervals, the number of events per second, frequency in cycles per second, or speed in RPM can be obtained. Speeds as high as 100,000 counts per second are possible.

Magnetic Fish Hook Holder

Up to eight lures, hooks or flies for fishing can be safely carried in a readily accessible position with "Hookie." It's a magnetic fish hook and lure holder made of plastic. Approximately four inches long, one inch high and half an inch in width, "Hookie" can be pinned on the hat, shirt or jacket. Available in silver, bronze, or maroon, the holder is equipped with a built in magnet and sells for \$4.95. Hookie, Inc., Box 324, Elmhurst, Ill.

Miniature Variable Resistor

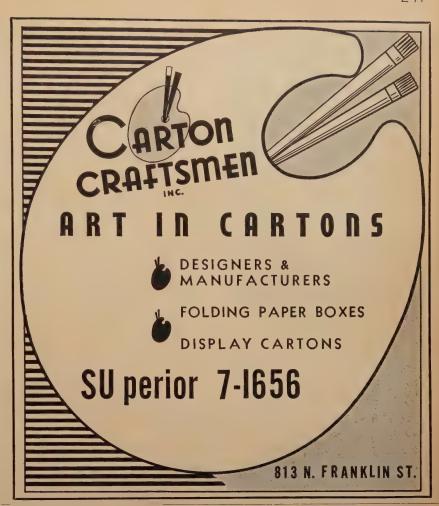
A variable resistor only 5% inches in diameter is available in production quantities from the Electronic Components Division, Stackpole Carbon Company, St. Marys, Pa. The midget resistor is said to be especially suited for installation in chassis where space is limited as in midget portable radios, television receivers, audio equipment, instruments, and compact printed circuits of all kinds.

Multicut Tool Holder

A multicut tool holder for medium duty machining operations, featuring "throw away" carbide inserts that eliminate grinding is offered by Wesson Company, 1220 Woodward Heights Boulevard, Detroit 20, Mich. Positive chip control is said to be provided by an adjustable carbide-tipped chip breaker clamp serrated from the cutting edge.

Automatic Direction Finder

Raytheon Manufacturing Company, Waltham, Mass., has developed an automatic radio direction finder to assist marine navigators in determining their exact positions in the offshore waterways. The direction finder is tuned to two nearby shore radio stations, one at a time. The indicator on the finder points to the station tuned just as a pocket compass points to magnetic north. The two stations tuned are located on the map and lines are drawn from these stations



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along the indicated compass bearings. The point where these lines intersect represents the operator's exact position.

Point-of-Sale Recorder

Electronics Corporation of America, 10 Potter Street, Cambridge, Mass., is manufacturing an electronic business machine that will keep perpetual inventory and record withdrawals and sales without the use of cards, tape, or other external media. Called "Magnefile, type C," it is a completely self contained unit requiring no auxiliary equipment. It is about the size of an office desk and operates as easily as a cash register according to the manufacturer.

Automatic Garage Doors

Three types of automatic garage doors are being made by The Alliance Manufacturing Company of Alliance, O. The key switch model (\$69.95) is activated by insertion of a key into a switch mounted on a post alongside the driveway or on the wall of house or garage. The hydraulic hose model (\$79.95) goes into operation when the car crosses the length of hose installed on the driveway. Radio controlled models (\$164.95) are activated by a tiny transmitter installed beneath the hood of the car. All models open and close door, turn light on and off, and lock sectional doors.

Pulse Transformers

A new series of pulse transformers for use in high speed circuits is being produced by the Sprague Electric Company, 265 Marshall St., North Adams, Mass. Hermetically sealed with glass-to-metal solder seals in drawn-shell rectangular containers, the transformers operate at ambient temperatures up to 85 degrees Centigrade. They have a physical volume of .19 inches, pulse with range of 0.4 to 10 microseconds and maximum rise time of 0.1 microseconds.

Machinery Mount

A machinery mount for isolating high speeds for low impact applications is being produced by The Barry Corporation, Watertown, Mass. The unit is designed for use

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where high absorption of vibration is necessary or where soft floors make control of vibration frequencies difficult. Available in five sizes, the mounts depending on size have an effective load range from 250 to 6700 pounds per mount.

Push-button Dispenser

Pres-Flo, a push-button measuring dispenser for sugar, salt, soap powders or detergents is now on the market. Made in colored and clear plastic and practically unbreakable polyethylene, Pres-Flo is operated by pressing the button on top which releases a level teaspoonful of material at the bottom. Price, \$1; three for \$2.75. Ultra Tone Company, 700 Fort Washington Avenue, New York, N. Y.

Heating Regulator

A "small-home" heating regulator that measures both outdoor and indoor temperatures is being marketed by Automatic Devices Company of Western Springs, Ill. The burner is operated so that the temperature of the air or water circulated is raised only high enough to offset the rusultant heat loss. The company says the device provides an even flow of heat in contrast to "hot-cold, hot-cold heating, characteristic of ordinary room thermostats." Fuel savings of up to 15 per cent are claimed.

Circular Saw Attachment

A circular saw becomes a jig saw in three minutes with an attachment from Versa Tool Manufacturing Company, Lake and Fourth Street, Racine, Wis. The unit can handle thicknesses up to 41/4 inches and can cut a circle 24 inches in diameter. Said to fit any circular saw the converter sells for \$11.95.

Electric Tractor

Mercury Manufacturing Company's latest Tug electric tractor is Model 550, available in either twin-three or four-wheel types. Both types are offered in two drawbar capacities, a standard model being rated at 2,500-lbs. maximum drawbar pull and a heavy-duty

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Walker Jimieson, Inc.



model at 3,000 lbs. New design features include auto-type steering, unit-assembled double reduction hydraulic drive, self-energizing brakes, and four-speed magnetic contractor travel control with adjustable timed acceleration and controlled plugging. The company's address is 4044 South Halsted St., Chicago 9.

Lumber Stretcher

· Onsrud Machine Works, Inc., 3900 W. Palmer St., Chicago, has introduced a scarfing machine that produces matched joints and cuts both mating boards simultaneously. It performs a complete cutting cycle on two board ends in about 15 seconds, including loading, clamping, cutting, return and unload. Previous models required two operations using separate cutters on each board end. The new Onsrud W-12, known as the Lumber Stretcher, is used to make long boards out of short boards and is designed with a stationary table. It will scarf boards up to 2 inches thick and 12 inches wide.

\$5,000 Recorder

A \$5,000 sound recorder that will register four conversations simultaneously on a single magnetic tape and will unscramble them so that they can be played back individually or in pairs has been demonstrated by Magnecord, Inc., 225 W. Ohio St., Chicago 10. It is an adaption of a unit built for the Civil Aeronautics Administration for communication between control towers and passenger planes. The company says the new recorder will prove valuable in the medical field by allowing on-the-spot accounts of surgical operations to be made through use of lip microphones. Other uses seen include permanent recording of intercommunications between police, fire and similar civil safeguard groups.

For Tired Feet

People whose jobs keep them on their feet all day will be interested in a sponge rubber matting called "Foot Ease" now being manufactured by United States Rubber

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Each of the units pictured above has a daily production rate of 2,000 pounds of high grade aluminum. They are the largest aluminum reduction cells ever operated in a commercial line.

Developed by the Reynolds Metals Company and incorporated in its two new plants, the cells are two to six times the size of other units now in use in this country. Each must be fed at a daily rate of 4,000 pounds of alumina (aluminum oxide) and another 1,000 pounds of carbon anode material.

The production line above, located at Arkadelphia, Arkansas, is in a building 1,800 feet long, covering over 2.5 acres. The power source for this line has a direct current capacity of 100,000 kilowatts, which is enough to supply a city of 300,000 population. The plant has an annual capacity of 110 million pounds of aluminum. The company's other new plant, operating with similar reduction cells, is located at Corpus Christi, Texas.

Company, Rockefeller Center, New York City 20, The two-layer construction of sponge rubber protected by a tough rubber cover is designed to cushion the effects of concrete, tile, or other hard floors. Foot-Ease will be sold in 25-foot lengths, 36 inches wide.

Versatile Floor Finish

Dura-Swift floor finish, made by McCloskey Varnish Company, 7600 State Rd., Philadelphia, is said to be both fullbodied and fast drying. Unthinned, it will cover about 350 square feet per gallon. McCloskey said it is dust free within 10 to 20 minutes and ready for recoating in one hour in a ventilated room. A

two-coat floor covering is ready for traffic in 10 to 12 hours. It is designed for wood floors, wax-free inlaid linoleum, unfinished furniture and interior trim.

Mending Tape

A transparent mending tape that can be written on is the latest product offered by Minnesota Mining and Manufacturing Company, 900 Fauquier St., St. Paul 6, Minn. The tape, known as Scotch brand 810, is designed for mending documents, office records and books. The maker says it is shrink-proof, stays crystal clear, won't ooze adhesive at the edges or leave gummy residue.

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Employment

(Continued from page 61)

1954, turned higher again in September. The rate of voluntary "quits" was down to 15 per thousand workers in May, or about half the average in 1953, rose to 29 per thousand in September, but in November was back down to 20.

Despite the moderate business recession and the loosening in the job market, wage scales rose during the year. Average weekly earnings of production workers in the Chicago Metropolitan area, comprising five Illinois counties and Lake County, Indiana, receded when employers eliminated overtime work, but at the end of the year, average weekly and hourly earnings were higher than they were a year earlier.

Weekly Earnings

Average weekly earnings of all production workers in manufacturing industries was \$81.96 in December, against \$80.36 in December, 1953, although the average weekly hours worked were down slightly to 40.7 hours from 40.9. Average hourly earnings were up to \$2.01 from \$1.96. Leading the field in December were production workers in printing and publishing, with

average hourly earnings of \$2.48 and weekly earnings of \$95.90. Workers in the petroleum industry were close behind with hourly earnings of \$2.37 and a weekly average of \$94.30. Shorter work weeks resulted in lower weekly earnings for workers in iron and steel foundries, metalworking machinery plants, industrial machinery and equipment plants, textile mills, and apparel products factories.

A study published by the United States Bureau of Labor Statistics disclosed that salaries of female clerical workers in the Chicago area were close to the highest paid in the United States. Secretaries headed the list with average salaries of \$72.50 a week, while earnings of more than \$66 weekly were reported for class A accounting clerks, bookkeeping machine operators, and technical stenographers. General stenographers averaged \$62, and class A typists \$60, as of March, 1954, as compared with \$45 and \$43.50, respectively, in 1948.

Renewed buying of steel was reflected in an increased work week in steel mills during November to 39.6 hours on the average for pro-



duction workers, from 38.1 hours in October. In December the work week increased to 40.3 hours, the longest of the year and only a shade under the 40.5 hours worked in December, 1953. In Lake County, Indiana, center of the steel industry, the vigorous upswing in activity of the big steel mills was sufficient to offset almost completely the normal November to January decline in total employment.

Hoover Committee

(Continued from page 42)

gence activities — the latter headed by General Mark W. Clark.

The study has shown incidentally that although the federal government has undergone an almost astronomical expansion since the advent of the new deal, there has been a tremendous increase in productivity at the same time. Today's U. S. working force of 65 million adults includes 12 million government employes and officials, members of the armed forces, and persons making and transporting supplies for the government. Despite the taxes represented by this load, the nation has been able to maintain a standard of living equal to or better than before the expansion.

The commission has received appropriations totaling \$2,585,059 to finance its work. In addition to Mr. Hoover, the members are Attorney General Herbert Brownell, Jr., Defense Mobilizer Arthur S. Flemming, James A. Farley, former Senator Homer Ferguson, Senator John L. McClellan, Solomon C. Hollister, Robert G. Storey, Representatives Clarence J. Brown and Chet Holifield, Joseph P. Kennedy, and Sidney A. Mitchell. It has operated with never more than 544 employees, many of them part time, and the greater part of them serving without compensation.

Foreign Policy

(Continued from page 242)

world, particularly in Southeast Asia.

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a tariff concession granted to one. In dealing with Japan we might offer to reduce the tariff on woolens. Meanwhile we would ask Britain to lower its own tariff on toys in return for this concession, because the effect would be to open our markets not for Japanese woolens but for British woolens, since the British export far more woolens than the Japanese. Our quid for this would be the opening of the British market for Japanese toys. A series of similar tri-lateral deals might be worked out to open markets for Japanese products in Burma, Indonesia, and other countries that would weld her trade patterns into our system.

Part of Program

These and other activities indicate this Administration's determination to improve our international economic relations as part of the overall strengthening of ties with non-Communist nations. Secretary of State John Foster Dulles, testifying before Congress on the tariff features of the program, said:

"It would be a great mistake to assume that our security can be assured merely by treaties of military alliance. In this economic field many nations have a responsibility. But the heaviest responsibility lies upon the United States. That is because we are the world's principal economic unit. We account for more than 40 per cent of the world's production. Our trade accounts for between 15 and 20 per cent of the world's total trade. We are the largest single supplier of, and the largest single market for, many foreign countries. Therefore, our economic behavior is of tremendous importance to our friends and allies."

Office Space

(Continued from page 64)

by a single tenant which will lease a large portion of the space.

While the Prudential Building is the first new skyscraper in Chicago in more than 20 years, a large amount of office space has been provided in recent years by remodeling structures originally designed for stores, warehouses, wholesale displays, and other purposes. In four such buildings alone, more than

three million square feet of office space has been created. In the period from 1942 to 1954, inclusive, downtown office tenants occupying more than 400,000 square feet have moved to suburban locations - sometimes to new structures they erected themselves, and in a number of instances to offices maintained in connection with plants. One reason frequently given for moving to a suburb was the inability to obtain additional space for expansion.

In addition to office tenants that have moved to suburbs, others that occupied some 676,000 square feet of downtown space have moved to the periphery of the loop, and about 170,000 square feet of space was vacated by tenants that moved to areas still further removed from the loop but within the city. Another 200,000 square feet was vacated by tenants that moved to another city.

The fact that all this space was quickly absorbed indicates the vigorous demand for offices in Chicago and is a measure of the city's business growth in recent years.

Trends in Finance

(Continued from page 20)

tions financed one new home for every six existing homes. Today they finance more than four for every six existing homes. According to Mr. Strunk if this rate of gain continues, these institutions will be financing about 650,000 new homes annually by 1960, an amount equal to 50 per cent of the 1954 home building rate.

The total assets of the savings and loan institutions increased from \$8.8 billion in 1945 to \$31 billion at the end of 1954, a gain of 253 per cent.

• Commercial Musicale - Scandinavian Airlines System, Inc., is trying to lure vacationists to its line through the medium of a musical travel phonograph record.

The ten-inch, 33 1/3 rpm nonbreakable record "European Holiday" features a U. S. couple taking their "dream trip" to Europe via S-A-S. The couple, parts sung by Jill Corey and Jerry Vale of Columbia Records, book their passage via their travel agent to Scotland, London, Paris, Spain, Rome, Switz-



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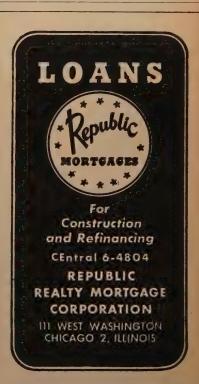
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Told in gay, lilting music, the story line subtly but unmistakably puts the listener aboard the S-A-S Royal Viking flight and into the vacation meccas of Europe. The record lasts 14 minutes. On the other side are three light classical Scandinavian selections.

Scandinavian Airlines plans a national advertising campaign to let prospective vacationists know about the record. It will be sold through travel agents for one dollar a copy. Accompanying the record is a complete travel planning kit which includes time tables and descriptive literature of places and things to be seen. The airline also hopes disk jockeys will like the music well enough to play at least portions of it on their programs.

• More Money Spent for Services — A significant change has been taking place in the way people have been dividing their spending between goods and services according to figures compiled by the U.S. Department of Commerce.

Total consumer spending reached a record \$234 billion in 1954. It was spent as follows: non-durable goods, 52 cents; services, 36 cents; and durable goods, 12 cents.

This breakdown is substantially the same as the one which prevailed in the 1940-41 period. It marks the completion of a cycle in personal spending under wartime and postwar influences during which first nondurables, then durable goods, took an abnormally large part of the consumer dollar based on previous standards. Until recently, housing shortages and rent controls held service expenditures down to comparatively low levels.

Housing and household operations combined are by far the biggest element in expenditures for services, representing about half of the total. These housing expenditures together now come to more than \$40 billion a year as against around \$30 billion in 1950, a gain of about a third. They represent the consumers' second biggest outlay, exceeded only by food.

A sign of the times is found also in the category of interest on personal debt. Reflecting record borrowings by consumers, interest payments recorded in consumer expenditures are now around \$3 billion a year as against less than

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A. F. SHAW and CO., INC. Insurance Exchange Phone WAbosh 2-1068 175 W. JACKSON \$2 billion in 1950 and only a half billion dollars at the end of World War II in 1945.

The following table shows the changing pattern of personal consumption expenditures in billions of dollars from 1940 through 1954.

Year	Total Spend- ing	Durables	Nondui ables	:- Services
1940	\$ 71.9	10.8%	51.8%	37.4%
1941	81.9	11.8	52.8	35.4
1945	121.7	6.7	60.1	33.2
1947	165.0	12.5	56.4	31.1
1950	194.0	14.7	51.8	33.5
1952	218.4	12.3	53.1	34.6
1953	230.1	12.9	51.7	35.4
1954 (*)	234.8	12.3	51.5	36.2

(*) Third quarter, seasonally adjusted at annual rates.

Source: U.S. Dept. of Commerce.

• How Post-war Savings Are Used - Since the end of World War II Americans have saved 115 billion dollars out of their personal incomes. What have they done with

The largest share of the savings total was kept in liquid form, cash, bank deposits, savings and loan shares, and government securities. The net increase of these liquid assets was \$46 billion. This added to the liquid assets in the hands of individuals at the end of World War II makes the total now held well over \$200 billion.

The second most important of the uses to which post-war savings have been put is the purchase of insurance. Individuals invested about \$38 billion in insurance during the years 1946 through 1954.

During the same years Americans put \$13 billion into their own homes. This represents savings applied to down payments or to subsequent amortization of the mortgages. The actual value of homes built since 1945 is about \$75 billion.

Finally, \$18 billion of individual savings were invested by the savers in business enterprises, either by purchase of corporate securities or by investment in unincorporated enterprises, including farms.

• Glass Container Shipments Off - Domestic shipments of glass containers in 1954 fell short of the record high set in the previous year.

The 43 glass companies who are members of the Glass Container Manufacturers Institute, Inc. and represent about 95 per cent of the industry shipped 16.7 billion units



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in 1954, down 2.8 per cent from the record year.

Shipments during the year of glass containers for the packaging of food products reached a new high of 50 million gross, an increase of about 2 per cent. Use of glass containers for the packaging of chemicals, both household and industrial, was up 4.7 per cent.

Shipments of glass containers for use in packaging beverages of all kinds declined to 30 million gross in 1954 from 34.5 million gross in 1953. While shipments of milk bottles dropped to 2.8 million gross from 3.4 million gross, the use of half gallon and gallon milk bottles increased about 30 per cent, meaning that total tonnage declined less than the unit figure.

Beer bottle shipments were off 13 per cent in 1954 to 10 million gross. This drop was attributed to inventory adjustments of brewers' stocks of empty returnable bottles, coupled with a decline in beer consumption. The industry estimated that 70 per cent of all packaged beer was glass-packed last year.

The outlook for 1955: Shipments

will equal or surpass the record high of 1953.

• The Breakfast Habit — If your stenographer makes silly "boners" in the morning but sharpens up after lunch, the chances are that her breakfast was no more than a cup of coffee or a few drags on a cigarette.

The economics bureau of the Northwestern National Life Insurance Company has just finished checking the breakfast habits of 1600 white-collar workers. It finds that 45 per cent of the women under age 25 habitually eat little or nothing before going to work.

Only 23 per cent eat a good breakfast. Another 32 per cent eat one classed as fair. Only 8 per cent of all the young women in the survey were dieting.

Business women of 25 and over average much better, 29 per cent of them take a complete balanced breakfast, 48 per cent eat a fair breakfast, and 23 per cent little or nothing before going to work.

The men's breakfast habits were much better than the women's. Of

the entire group, only one out of six eats little or nothing for breakfast; 40 per cent a fair breakfast and 44 per cent a good or bountiful meal. There was little difference in the breakfast habits of the men over and under age 25.

What is a good breakfast? At least three items, say nutritionists. Fruit or juice, milk or egg, and one choice of toast, roll, pancakes or breakfast cereal. Hot beverages such as tea and coffee have no nutritive elements. A bountiful morning meal is a so-called "good" breakfast plus ham, bacon or other additional food items.

• Credit Unions Grow — The credit union movement in Illinois continued to grow in assets and members last year.

At the end of 1954 there were 1,312 credit unions in the state with a total membership of 635,000 share-holders. According to the Illinois Credit Union League this represents an increase of 144 credit unions and 35,000 members for the year. Total assets increased \$20

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million to attain an all-time high of \$210 million.

Throughout the Western Hemisphere 2,175 new credit unions were organized last year bringing the total to 19,880. Individual membership is now over 9 million and total assets are in excess of \$2.5 billion.

• The Male: Urban vs Suburban
— According to the Chicago Community Inventory report there is a bigger percentage of the suburban male population employed as professional and managerial workers, craftsmen and laborers than in the city. Clerical workers, operatives and service workers constituted a larger proportion of all employed males in Chicago than in the suburbs. The proportion of sales workers in the city and suburbs was the

The median personal income of the suburban male is higher than his Chicago counterpart, \$3,621 compared with \$3,292. Only 64 per cent of all males 14 years of age and over in Chicago were married and living with their spouses in 1950. An additional two per cent were married but separated. In the suburbs, 70 per cent of all males were married and one per cent separated. The percentages single, widowed, and divorced also are somewhat higher in the city than in the suburbs.

• Mortgages Total \$26 Billion—An estimated \$25,750,000,000 is now on loan to property owners from United States life insurance companies, the Institute of Life Insurance reports. This is an increase of \$2.4 billion over a year ago.

During 1954, life companies extended new real estate mortgage financing of \$5.1 billion. This amount was exceeded only once before, in the boom construction year of 1951, and then by less than one per cent.

The investment of life insurance dollars in real estate mortgages now totals \$19 billion more than at the close of World War II. The type of mortgages made during the year showed a new trend. Biggest increase was in Veterans Administration loans, up 24 per cent in the

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year. Conventional urban mortgages were second with an 11 per cent increase and FHA mortgages were up only two per cent over 1953.

Farm mortgage holdings of the life companies topped \$2 billion for the first time since 1930, and were nine per cent over the previous year. Aggregate mortgage investments of the life insurance companies represented 30.6 per cent of total assets at the end of 1954, compared with 29.7 per cent the year before and 14.8 per cent at the close of World War II.

Here. There and Everywhere

(Continued from page 16)

10,000 of population. Germany comes next with 15. Switzerland follows with 14. The United States has 13.3 doctors per 10,000 people.

- Except When It Rains There are over 100,000 taxicabs on the streets of the nation today. New York boasts the most cabs, about 12,000; followed by Washington, D. C., with 9,500. Chicago and Philadelphia have more than 2,000, and New Orleans, 16th in population, is fifth in the number of cabs with 1,600. Boston, St. Louis, Detroit, Baltimore and Los Angeles have more than 1.000.
- Wrist-watch Radio The Army Signal Corps has developed a wristwatch radio receiver that gives sharp reception at distances up to 45 miles. The miniature set utilizes a printed circuit and three transis-

tors. It is powered by a battery, 1/2 inch by 5/8 inch, contained in the

- Long Distance TV Tests -American Telephone and Telegraph engineers hope to demonstrate that it is possible for a telecasting wave to follow the curvature of the earth. They believe that by increasing the signal strength ten times or more, a "drip-off" in the waves will occur and cause them to follow the bend of the earth. Telecasts to test the theory will be beamed from Florida to Cuba.
- Gas Heat Makes Gains Continued strong home-building and modernization activity during 1955 is expected to lift the sales of gas house heating equipment to record levels according to the Gas



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Appliance Manufacturers Association. During 1954, 513,700 gas-operated furnaces were delivered to distributors and dealers. It was the highest total of furnaces delivered by the industry in any one year.

• Air Pollution and Its Control - The American Foundrymen's Society, DesPlaines, Illinois, has just finished a booklet describing the engineering characteristics of the various types of equipment now in actual service for controlling emissions from metal-melting operations. Typical operating data, obtained from installations of several types of equipment, are included. Called "Control of Emissions from Metal Melting Operations," the booklet sells for \$1.50 to AFS members; \$2.25 to nonmembers.

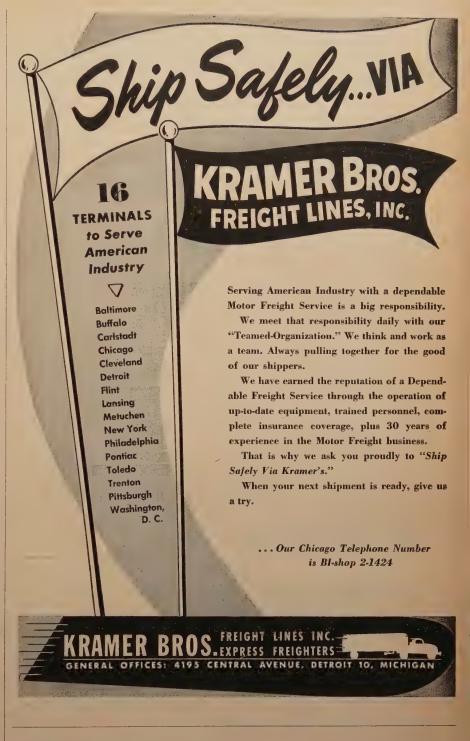
• Calendar vs. Fiscal Year — The calendar year is seldom the best choice for a company's fiscal year according to a new pamphlet published by the American Institute of Accountants. The natural business year of any company covers the annual cycle of activity ending when inventories, receivables and loans from banks are lowest.

Some of the advantages cited for fiscal or natural business year accounting: inventory can be taken when it is lowest and when employees are least busy; the balance sheet will show the company's most liquid position; tax returns will show smaller amounts for inventories and accounts receivable; the income statement will show results of operations during an actual cycle of the business, rather than a mixture of the end of one season and the beginning of another.

Use of the calendar year for financial accounts was brought about in the United States by the excise tax law of 1909 and the habit remained after the law was changed.

• Record Payroll Cost — The average hourly payroll cost in the iron and steel industry hit a new high in 1954, according to American Iron and Steel Institute. For the year the average hourly payroll cost was \$2.333 compared with \$2.267 in 1953.

Average hourly employment cost, which includes the estimated cost



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of pensions, social security and insurance, also was higher in 1954 than ever before at \$2.51. The preceding year it averaged \$2.44. The industry's estimated total payroll was \$2.9 billion during 1954, the second highest in history. It was down 13.4 per cent from \$3.4 billion in 1953. In comparison, steel production declined 21 per cent from 1953. The number of employes and hours worked were also lower in 1954. Employes went to 611,000 from 682,800. Hours worked averaged 36.1 a week in 1954 against 39.4 hours in 1953.

• The Chicago Worker — In the 50 year period, 1904 through 1953, the number of manufacturing production wage earners in Chicago has increased 2.5 times. The level of wages has increased 17 times and the hours of work have declined about two-thirds, the work week going from a 56-to-60-hour week down to about 40 hours.

• Capital Changes Set Record -Capital changes by corporations set a record during the favorable securities market of 1954, Commerce Clearing House reports. More than 1,800 corporations altered their financial structures, most of them in ways which affect the federal income tax returns of their security holders. These changes consisted of stock dividends, stock rights, exchanges, split ups, as well as liquidating payments, preferred stock redemptions, prepayment of bond redemptions and distributions in the break-up of public utility holding companies. În 1953, 1,500 plus capital changes were made.

The 1954 record was attributed in part to the booming stock market with higher prices prompting splits and encouraging issuance of stock rights for equity financing. Lower yields prompted some refinancing involving exchanges of stocks or bonds and the increase in mergers brought about many exchanges of stock for stock.

• Accelerated Depreciation — Out of 167 manufacturing companies recently surveyed by the National Industrial Conference Board, 75, or 45 per cent, report they are changing their depreciation policies to take advantage of the accelerated depreciation methods now permitted under the 1954 tax

code. Thirty-five per cent have definitely decided against a change at the present. The remaining companies are still studying the

Although accelerated depreciation was written into the new tax code to stimulate expansion and modernization programs, two-thirds of the 75 companies which have changed their depreciation policy say it will have no influence on their capital spending. Factors such as demand for products, advantage of technological improvements, and the availability of cash will remain the dominant considerations for capital spending.

- Foreign Trade Survey The League of Women Voters of Illinois is starting a survey on the state's import and export trade. The League is sending questionnaires to all companies employing over 250 employes, located in the six county area around Chicago. A second survey will be made in all the other counties of the state of companies employing over 100 persons.
- Stress and Strain Tester A "pint-size" metals stress and strain testing chamber in which liquid helium is used to attain temperatures as low as minus 452 degrees Fahrenheit has been developed by Westinghouse Electric Corporation. Said to be the smallest such testing chamber, the unit is only slightly larger than a hand fire extinguisher. Information gained from tests at such sub-zero temperatures is expected to be useful in the design and development of guided missiles and future supersonic aircraft. The low temperature possible in this chamber is just short of the absolute zero reading of minus 459.6 degrees Fahrenheit, the point at which, theoretically, all molecular motion
- Engineering Simplified Minneapolis-Honeywell Regulator Company has published an "Automation Dictionary." Designed primarily for those whose knowledge of automatic control is largely limited to the setting of the alarm clock, the booklet translates some 87 of the most broadly used automation engineering terms into basic English. For example: "Log-

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SEeley 3-1677 1316 W. Cermak Road Chicago 8, Illinois ger" according to the M-H dictionary is not a woodsman but an instrument which, after scanning a variety of conditions, "logs" its findings on a chart.

And so it goes, from A to V. Apparently there are no confusing words in automation beginning with WXY or Z.

- Freight Car Orders Up—Orders for new freight cars rose to 5,087 in January, 1955, from 2,685 in December of last year, according to the American Railway Car Institute and the Association of American Railroads. The backlog of cars on order as of February 1, 1955 was 18,395, compared with 15,317 on January 1. Deliveries of new domestic freight cars in January 1955 totaled 2,008 compared with 2,173 in December and 4,944 in January 1954.
- Life Insurance Payments American families received \$13,-554,000 daily from their life insurance policies in 1954, making an aggregate of \$4,947,127,000 such payments during the year, the Institute of Life Insurance reports.

These payments were 10 per cent more than the year before and nearly twice such annual distributions at the end of World War II.

Millions of families were on the receiving end of these life insurance payments last year. Death benefit payments were made under 1,578,100 policies; matured endowment payments under 755,000 policies; annuity income went to holders of nearly 700,000 contracts; policy cash values, partly for emergency needs and partly for planned uses, went to millions of policyholders.

• **Doughnut for Jet** — A "plastic doughnut" invented by two employes of Republic Aviation Corporation is solving a vexing problem in jet aircraft production.

The "doughnut," inflated into place in the nose of an engine as soon as it is unpacked from its shipping crate, provides an immediate tight seal during an aircraft's progress along the assembly line. This keeps out dirt and other foreign objects harmful to the almost 2,000 blades on the engine turbine and compressor, parts of which

rotate at more than 8,000 revolutions per minute in flight.

The invention thus adds to the safety of jet-engine operation aloft and helps prevent costly engine overhauls. The new covers can go on engines even before the latter are shipped and stay in place until the last minute before engine runup. Wood-and-canvas covers formerly used had to be removed once the engine was placed in an air-frame.

The "doughnut" has no metal or other hard parts. If it's inadvertently sucked into the engine, the material can pass through without damaging the rotor blades or other parts of the power plant.

• Gas Water Heater Sales — Gas water heater shipments rose sharply to 198,300 units during January, according to the Gas Appliance Manufacturers Association. This was a 20.6 per cent increase over the 164,400 shipped during January of 1954.

The confirmed shipments for the entire year of 1954 totaled 2,281,100 units, a 4.5 per cent increase over the 2,182,700 automatic gas water heaters shipped during 1953.

January's figures seem to confirm an earlier industry prediction for an excellent sales year. A GAMA survey of 33 water heater member companies showed that 28 of these anticipated increases.

- The Human Touch Testing writing equipment at the highly mechanized Sheaffer Pen Company plants is done by hand because machines can't duplicate the variations in pressure, temperature changes, direction changes and varying grips to which pens are subjected in actual use.
- A Staggering Freight Bill—The alcoholic beverage industry's freight bill from the nation's railroads last year amounted to more than \$75,000,000. Schenley Industries, Inc., alone spends about \$15,000,000 annually with railroad, truck and steamship lines to haul the almost 2,000,000,000 tons of products which go in and out of its several plants.
- Billion Dollar Dividends Premium refunds paid as policy dividends to owners of participating life insurance in this country

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3248 W. 47th Place. LAfayette 3-2050 Chicago 32 by their insurance companies will probably exceed \$1,000,000,000 this year for the first time.

During 1954, policy dividend payments were \$933,000,000. Dividend scales announced for 1955 show increases in many cases. This year's aggregate of policy dividends will also increase as newer policies become eligible for such distribution and the previously existing policies add a year in age. The billion-dollar mark would represent a doubling of such payments in nine years.

Of 135 companies checked, more than one-sixth report an increase in the schedule of dividend payments. This is the fourth consecutive year in which a large number of companies have increased dividend scales, with the result that the greater part of the participating life insurance outstanding has been given a larger scale of refunds. About 70 per cent of outstanding life insurance is participating and included in the dividend-receiving category.

• Jewelry Business Sparkles — Gross margins earned by the typical cash and open credit jeweler in 1953 were 44.4 per cent of net sales, whereas installment credit jewelers realized gross margins of 47.5 per cent. So says Dun & Bradstreet in a report based on a survey conducted among 270 jewelers.

Since the operating characteristics of cash and installment type jewelry stores vary considerably in certain lines, the participants were divided into two groups consisting of 209 cash and open credit jewelers and 61 installment credit jewelers. The stores, located throughout the U.S., are classified as small to moderate in size.

Concerns operating on a cash and open credit basis earned a net profit, before federal and state income taxes, but after owners' salaries, of 3.7 per cent on annual sales of \$35,000. For the installment credit jewelers the net profit was 5.8 per cent on annual sales of \$84,130.

The survey also showed that the jeweler in the northeast was larger in net worth and transacted a greater volume than the average jeweler in other sections of the country. Although on a percentage basis the combination of salaries and net profit was highest for the group in the middle west. Jewelers in the far west spent considerably more for occupancy and depreciation of furniture and fixtures in relation to net sales, than the others.

• Company-paid Plans — Company-paid sick leave and group insurance are providing compensation against wage losses due to sickness and disability for 80 per cent



"I don't understand; Doc said I must give up smoking, drinking, women, driving, coffee and meat—then he gave me the card with this address on it."

of the workers in 963 companies participating in a study on company methods of providing employee security recently completed by the National Industrial Conference Board.

In analyzing programs for salaried employees in 468 of these companies, the Board found that 49 per cent have formal sick leave programs, 48 per cent have group accident and sickness insurance plans, and 47 per cent give direct cash payments to their employees to supplement workmen's compensation.

A study of hourly plans in 495 of the companies revealed that 84 per cent provide group insurance, 14 per cent give supplements to workmen's compensation, and 14 per cent have formal sick leave provisions. Although formal paid sick leave plans for hourly employees never have been widespread, they are on the increase. Only 6 per cent of 455 firms surveyed in 1947 had formal sick leave provisions for hourly employees compared with 14 per cent in the present survey.

Some companies use a combination of methods to provide a continuous flow of income to sick or disabled personnel. One fourth of the 468 firms reporting on salaried workers provide both formal sick leave and group insurance, while about nine per cent of the 495 firms reporting on hourly employees have these dual benefits.

• Battle on Stock Option Tax -A major battle has been started over the tax treatment of stock options granted to executives by corporations, according to Commerce Clearing House.

Opposite interpretations of a U. S. Supreme Court decision have been made by the U.S. Tax Court and the Internal Revenue Service. The former has said bluntly that the latter's interpretation is erroneous. The Revenue Commissioner has announced that he does not go along with the Tax Court's decisions invalidating his rulings. This is believed to mean that the Treasury will continue to stand by its interpretation.

Stock options have been commonly used in industry for two purposes: to give key executives a

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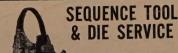
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chance to obtain a financial interest in a business, and to give them added compensation which can be deferred until a later, more favorable tax year when the option stock is sold.

Before the high court decision, in 1945, the income tax treatment of options depended upon intent. If the purpose was to give an executive a stake in the business, he could exercise the option without income tax consequences at the time. If, on the other hand, it was intended as added compensation, the executive was taxed at the time the option was exercised on the difference between the market value of the stock and the option price. This difference was taxed as ordinary income. The Internal Revenue Service now says that all options, other than restricted stock options which have special rules, are taxed at the time they are exercised. The Tax Court has interpreted the Supreme Court ruling as upholding the distinction made in the past.

The Court of Claims decision has been appealed to the U. S. Supreme Court and this court has granted a hearing. The ruling, if any, will be of interest only for past years since the 1954 Code adopts an even broader rule than that originally followed by the Tax Court and the Court of Claims. Under this provision a corporation does *not* realize gain or loss on the sale of its own stock.

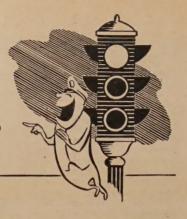
• Push Buttons Park Plane — The New York Airport is testing a new system for loading and unloading passengers and baggage. With the new method planes taxi onto a special platform and are then towed by electrically operated winches the remaining distance to a fully enclosed dock. Push buttons control the plane after its own power is cut off.

Besides allowing the passengers to step off the plane fully protected from the weather, the new system speeds handling of baggage. It also eliminates all need for the battery of small trucks and wagons commonly used to load or unload planes and allows the parking of 25 per cent more aircraft in front of a given dock area.

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Stop me...If...



A modern business firm had just hired a psychologist as personnel manager. The psychologist began by hiring a new secre-tary for the head of the firm, and the boss was looking on while the expert gave a psychological quiz to three feminine applicants.

"Two and two," said the psychologist.
"Four," replied the girl promptly.
To the same key words, the second girl said, "It might be 22."

The third girl answered, "It might be four and it might be 22."

"After the last girl had left, the psy-chologist turned to the boss. "There," he chologist turned to the boss. "There," he said, "you have the perfect example of the efficient psychological way of hiring people. The first girl said the obvious thing. The second was suspicious. The third was cagy and wasn't going to get caught. Which do you prefer?"

The boss did not hesitate. "I'll take the blonde with the blue eyes."

Little boy (at the opera): "Daddy, why is that man hitting the lady with a stick?"
Father: "That man is the conductor.

He's not hitting her with a stick." Little boy: "Then why is she hollering?"

Counsel: "But if a man is on his hands and knees in the middle of the road, it doesn't necessarily mean he's drunk.

Policeman: "No sir. But this one was trying to roll up the white traffic line."

Note from teacher on Mary's report card: "Good worker, intelligent, but talks too much.

Note from father, over his signature, on back of report card: "Come up some time and meet her mother."

Company Doc: "Wine, women and song

are going to kill you."

Worker: "Oh, Doctor, I'll never sing again as long as I live."

Private: "Sarge, one of the MP's just hung himself."

Sergeant: "Heavens! Did you cut him down?

Private: "No, he ain't dead yet."

"Miss Jones, get my broker, quick!"
"Yes, Mr. Smith. Stock or pawn?"

Jane: "Have you told anyone of your engagement to Mr. Jackson?

Edith: "No, I haven't told a soul, except Mary who thought he was going to ask

Junior: "Papa, what is the person called who brings you in contact with the spirit world?"

Papa: "A bartender, my boy."

Girl Customer: "Does this lipstick come off easily?'

Saleswoman: "Not if you put up a fight!"

Two Indians watched the building of a lighthouse. When it was finally completed they sat and watched it every night. A thick fog came rolling in one night and the siren blew continuously. "Ugh," grunted one Indian to the other, "light shine—bell ring—horn blow—but fog come in just the same."

A Milwaukee boy told his teacher that his sister had the measles

"You go right home, Johnny," she said, "and don't come back until your sister's well."

Johnny left in a hurry. After he was gone another boy held up his hand and said:

'Teacher, Johnny Dolan's sister what has the measles is visiting in Phila-delphia."

"How'd you make out with your wife in that fight the other night?"

"Aw, she came crawling to me on her

'Yeah, what did she say?"

"Come out from under that bed, you coward."

"Now, Son," said the father, "tell me

what I punished you for."

"That's fine," blubbered the kid, "first you pound the daylights out of me and now you ask why you did it."

Judge: "Why do you want a divorce?"
Hillbilly: "Jedge, that woman jest talks
too much. She don't never stop talking,
day or night. Talks all the time."
Judge: "What does she talk about?"

Hillbilly: "Jedge, she don't say."

"I wish to marry your daughter, sir."

"Do you drink, young man?"
"Thanks, but let's get this other matter settled first."

"Any rags, paper, old iron today?"
"I dunno. My wife's away."
"Any bottles?"

